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Commodore Electronics have gone into liquidation. "Business as usual," insist Commodore UK – but for how long? What happens to the Amiga now? What about your after-sales support? And just who *is* the mysterious investor rumoured to be ready for a buy-out?

WHAT IT ALL MEANS FOR YOU: PAGE 4

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The *10 out of 10* Series

Try it FREE!

Rapidly becoming Britain's favourite choice in educational software

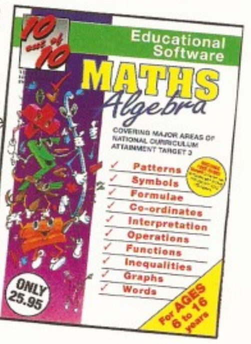
Maths (Algebra)

For children 6 to 16 years

"*10 out of 10* Maths (Algebra) meets all the criteria for an outstanding educational program and fully deserves first place as the Edutainment Program of the year. Ten out of Ten for it!"
– *Amiga User International (January '94)*

THE BEST EDUCATIONAL GAME of 1993

"This pack is very good. It is well suited to both home and school use. It encourages good skills, like searching for patterns and estimating. Also it's available on approval, so what are you waiting for?"
– *Acorn Computing (December '93)*



Junior Essentials

For children 5 to 11 years

A truly flexible package covering many topics essential for building a good educational foundation. The areas covered have been carefully chosen by a team of experts and come from several subjects and levels of the National Curriculum.

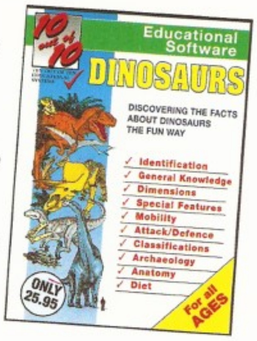
The child's progress in these areas is constantly monitored and recorded and parents or teachers can easily discover where a child needs help. As with all the *10 out of 10* series, further motivation to play the games and learn more is added in the form of High Score Tables.



Dinosaurs

For all ages

This package is the fun way to learn the facts about dinosaurs. The six games all have superb digitised graphics to make a whole area of history – dinosaurs – come alive. If you came face to face with a tyrannosaurus would you run away? Or are you safe because it's a vegetarian and wouldn't eat you? This, together with 100s of other interesting facts, can be discovered from this enthralling package. The six games – all with single and multi-player options – are educational fun for everyone.



Maths (Number)

For children 6 to 16 years

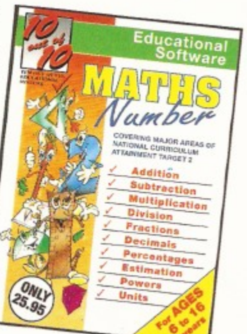
"Well thought out to offer real benefits to children studying in British schools."
– *PC Plus (July '93)*

"Educationally worthwhile and exciting to play – a rare combination."
– *Archimedes World (December '92)*.

"Unique in home-based programs because of the National Curriculum link."
– *The Micro User (September '92)*

"Excellent for reinforcing specific mathematics knowledge."
– *Junior Education (July '93)*

"The *10 out of 10* Series lives up to its name." – *PC Home (August '93)*



Early Essentials

For children under 7 years

"Outstanding. All of the activities are not only very enjoyable but they're well thought through. It's one of the best multi-purpose infant packages I've seen in a long while. If you have young kids get it for the home. If you're a teacher, hammer on the headteacher's door and beg for money to buy a copy."
– *Archimedes World (July '93)*

"At just £25.95 you'll be hard pressed to find anything which even comes close to Early Essentials."
– *Micro Computer Mart (Sept. '93)*



English

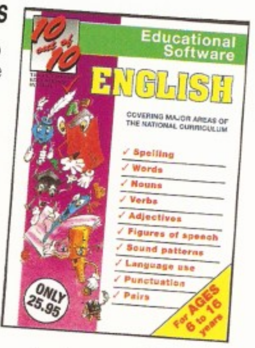
For children 6 to 16 years

"Everything being done is relevant to the player's education. An invaluable curriculum experience, plenty of fun, lots of variety."
– *PC Home (November '93)*

"Guaranteed to sustain the attention of even reluctant learners."
– *RISC User (January/February '93)*

"Most importantly, as the games are fun, children can't help but learn."
– *Acorn Computing (March '93)*

"Allows progression from Junior school age right up to GCSE level."
– *Amiga User International (Sept. '93)*

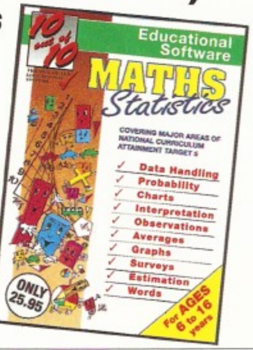


Maths (Statistics)¤

For children 6 to 16 years

Attainment Target 5 of the National Curriculum is Data Handling – a vital area of Mathematics. *10 out of 10* Maths (Statistics) covers 36 specific topics from that subject.

In this package, recording animal sightings in an animated pond or rolling dice are just two of the many challenges that children will relish as they learn about statistics. And can graph drawing be a game? It becomes arcade action as bricks and bombs are dropped onto the charts. This is a really enjoyable way to learn about statistics.

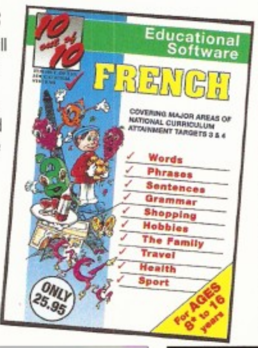


French¤

For children 6 to 16 years

This suite of six educational games will give fun and motivation to all children learning French. The package is designed with the Modern Languages National Curriculum firmly in mind and contains many challenges to reinforce facts stated in Attainment Targets 3 and 4.

10 out of 10 French is essential for children on Key stages 3 and 4, but the numerous parent and teacher customisation options make the software suitable for all children – however young – who are learning the French language.

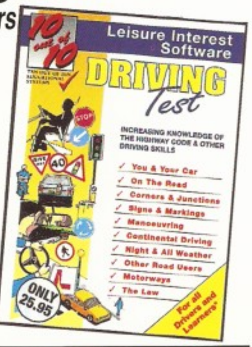


Driving Test¤

For all drivers and learners

Whether you're a novice learner or an advanced expert, there's plenty you can learn from this package. There are thousands of built-in questions and you can choose whether you want to answer them directly or add to the fun by trying them within games.

The six games have been designed to be fun for all adults and include strategy, mental agility, coordination and more. And, if you think you are up to it, you can *"take the test"* – a challenge covering many areas of the Driving Test.



The INNOVATIVE *10 out of 10* Series

These highly acclaimed suites of programs are a revolutionary step forward in educational software. They ALL use a unique system of automatically recording children's progress as they play and learn. This is just one of the many features which sets the 10 out of 10 Series in a class of its own.

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Each package contains **SIX** expertly designed educational games **covering TEN essential areas** of a child's education. All packages cover a **wide age range** and subjects are available for all children from three to sixteen years of age.

As children learn from the games their progress is **automatically recorded in 36 specific challenges** – the National Curriculum Attainment Targets of these areas are optionally displayed on screen in subject-based packages. All the programs are **designed in Britain** to be **fun for single players or groups** and the assessment system can monitor the progress of up to 4000 children with **no input from parent or teacher** needed. Watch them, join in the fun or leave them and return later to check their progress. **You're in control!**

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DEMONSTRATION VERSIONS are also available – each subject is on a separate disk. They cost £1 each. This will be refunded when you order the full version.

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HOW TO ORDER ...

The 10 out of 10 Series is available for Acorn 32-bit computers (Archimedes), Commodore Amiga and IBM/PC and compatibles. At the time of going to press, titles marked ¤ were not available on all formats. Please ring for availability. Each package is ONLY £25.95 and you can order by CREDIT CARD, CHEQUE or EDUCATION AUTHORITY ORDER.

If you ask for a free trial* we will send you the software without processing the payment. If you do not wish to keep the package, return it to us within 14 days and we will return your ORIGINAL cheque or order or not process your credit card for payment.

Order by Post or Phone from:
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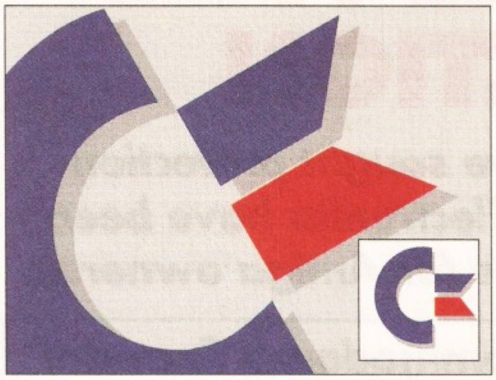
Site and Network Licences are available – please ring for details.

* The free trial may not be used in conjunction with any other offer.

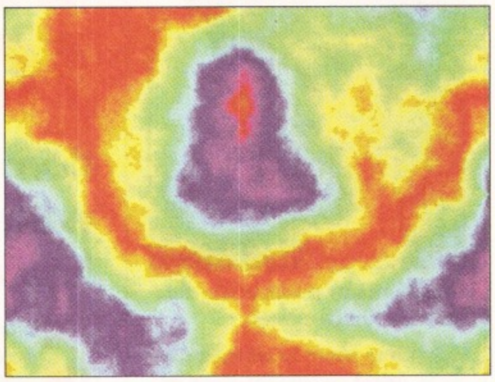
The *10 out of 10* Series is available from all good computer software suppliers

AMIGA SHOPPER
ISSUE 39 • JULY 1994

IN THIS ISSUE



Get the very latest details on what's happening to Commodore. Check out the news special on p4.



Whoa! Retina-burning plasma effects can be yours, courtesy of AMOS and Simon Green – p54.

The War of the Words



Which Amiga word processor reigns supreme? We compare every commercial package along with the best from the shareware scene. Find out which offers the features you need for the price you can afford PLUS top tips on getting the very best results from you current word processor.

9

COMMENT



Cliff Ramshaw ponders over this month's Amiga events...

We're about to witness the most significant stage of the Amiga's history since its launch. As you can see from the story to the right, Commodore themselves are about to undergo a huge change.

The staff at Commodore UK, though, remain optimistic. This optimism isn't really that remarkable, though – they know that the Amiga is going to survive. There seem to be buyers aplenty interested in Commodore and the Amiga, with one in particular on the verge of making an offer. I think we'll be seeing the manufacture of Amigas for some time to come yet.

What people also seem to forget is that there's already a massive Amiga user-base. Even if not one more Amiga ever saw the light of day, there's still a substantial market for the third party developers who've made the Amiga so successful with their amazing peripherals and programs. In other words, we can expect to see a steady stream of new products coming along to enhance the power of our machines even further, no matter what happens.

Plenty of people, including ex-employees, have been taking the opportunity to criticise the top management of Commodore International. Let's face it, they have made a few howlers in the past. Certainly they've failed to adequately market their products, especially in the serious sector. When was the last time you saw an advert for an A4000? And why is the thing so expensive compared to rival Mac and PC platforms.

I hope that we'll see a buyer emerge for Commodore who's prepared to put the money in for a truly radical research and development program – Amiga technology needs to take another, dramatic step forward to survive in the serious marketplace – and for a strong marketing campaign.

Fingers crossed...

CONFUSION AS COMMODORE FILES FOR PROTECTION

Commodore International have sought protection with the courts; Commodore Electronics have been liquidated. It's a worrying time for Amiga owners...

Commodore are in trouble. You may have already heard that they've gone bust – it's not true, but with one of their subsidiaries, Commodore Electronics Ltd, already in voluntary liquidation and the holding company Commodore International under protection by the Bahamian Courts, things ain't what they used to be.

Commodore International have been taken under the wing of the Bahamian equivalent of Chapter 11. This puts them in the hands of trustees, whose job it is to bring in as much revenue as possible for the company's creditors and shareholders. It also prevents creditors from pressing for repayment of debts. The move leaves the way clear for companies who may be interested in buying out the corporation.

Most of the European subsidiaries, including Commodore UK, are trading as normal – Commodore UK has released a terse press release to this effect – but the situation is a temporary one. A buyer is expected to be announced by the time you read this.

The news follows a period of heavy financial losses on the part of the company (see box-out for details). Many industry insiders have been expecting something of this sort to happen for some time now. Nevertheless, Commodore has being doing well in Europe, with demand for their products still high, despite the Germany economy being in recession. It's the parent Commodore company that has simply run out of cash.

To try and clear up some of the confusion surrounding the situation, we spoke to David Pleasance, joint managing director of Commodore UK. He confirmed that several buyers had expressed an interest, and that they would be buying "current Amiga technology, future Amiga technology and our distribution channels." So it seems that no matter what the outcome, the Amiga itself will continue.

Commodore's main factory, located in the Philippines, is currently closed. Given this, we asked Pleasance how long Commodore could continue supplying Amigas for sale. "We have a pool of Amiga product in Europe," he told us, "which all subsidiaries have access to. It will last until September without any new manufacturing." This at least means there's plenty of time for a deal to be struck before falling sales cause further financial problems.

Commodore's financial fortunes – the figures

Year	Net profit
1991	$57.4 million
1992	$27.6m
1993	–$356.5m

Financial years end on 30 June. Since 1991 Commodore International have seen a decline. As reported last month, Commodore lost a further $9.7m and $8.2m in the first two quarters of the current year.

One of the questions foremost in the minds of current Amiga owners is: *What about my on-site warranty?* Pleasance told us, "Every product sold has been warranted by ICL, so there is nothing to worry about. There's no fear anybody need have about that." *Amiga Shopper* understands this also applies to any Amigas sold in the future.

Understandably, news of the liquidation and court protection has caused considerable concern among the Amiga community, particularly those who have access to bulletin boards, where unsubstantiated rumours have been rife (to find out what Amiga developers and distributors have to say, see the panel on the next page). A number of companies have been put forward as potential buyers, including Amstrad, Samsung, Sony, Hewlett-Packard and Philips. Understandably, Pleasance is unwilling to comment on the identity of the real buyers.

Amstrad have publicly expressed an interest. Asked if they could be discounted from the running, Pleasance replied that, "There are more interested parties than Amstrad."

The most persistent rumour, allegedly from a verbal remark made by a Commodore Germany spokesperson, suggests that the most interested party is an "Asian investor". When asked if the company was indeed Asian, Pleasance responded, "Possibly."

Amiga Shopper has heard from a source close to the company that the buyer is in fact Samsung. Pleasance

told us that all of the details should be in place in "a matter of a couple of weeks."

There are other potential buyers. Jim Drew of Utilities Unlimited (makers of the Emplant Mac emulation board) has been trying to band Amiga developers together in an effort to raise enough cash to buy up the rights to Amiga technology. In an internationally distributed e-mail, he stated his goals as: "[to] purchase the rights from current ownership, or work with another corporation to see that continued development and *gasp* advertising is done.

"[To] contact major Mac and PC developers and PC developers (Adobe, Aldus, etc.) and once again offer to port their products to the Amiga at little or no cost. Once people see *us* running the big boys' software more efficiently than other platforms can, they will think hard before buying that next Mac or PC." He also outlined his commitment to developer support and development of new machines.



Despite the worrying news, David Pleasance retains his optimism: "It's almost impossible that the technology will die."

Hewlett-Packard, although they manufacture some chips for Commodore and have expressed an interest in CD32 for a prototype interactive TV system, seem unlikely contenders – their computing interests lie in high-end workstations much more powerful and expensive than the Amiga.

Sony and Philips both have their own competing technologies too. Sony are developing their PlayStation console, while Philips of course have CD-i. Their buying up CD32 technology really wouldn't make sense.

"Amiga Shopper has heard from a source close to the company that the buyer is in fact Samsung"

Another alleged potential buyer comes as a complete surprise – Giama, a company manufacturing slot machines for gambling. They are reportedly interested in Amiga technology for the production of home-based, on-line slot machines with sophisticated computer graphics. Again, this doesn't really hold water – if the company were considering such a move it could simply license the technology from Commodore in the way that arcade game manufacturers have already done.

Unfortunately, nothing for certain is known about Commodore's future. The only people who do know aren't saying anything at the moment. Whatever, the end of the Amiga seems extremely unlikely, as David Pleasance confirmed when asked what all this means for our favourite machine. "It will probably turn out to be the best thing that's happened," he said. "The Amiga needs one hundred per cent attention; now that we've divested ourselves of our dallying in the PC market, the future of the Amiga is stronger than ever."

In closing, he told us, "It's business as usual as far as we're concerned. It's almost impossible that the technology will die, though it may not be owned by Commodore, of course."

We'll bring further details on this, the most important stage in the Amiga's history so far, next month.

THE VIEWS OF DEVELOPERS AND DISTRIBUTORS

"We feel that Commodore will pull through the current crisis. As yet we have not experienced any fall in sales or had too many worried customers. We feel that the Amiga has plenty of life left in it and will continue to support it for the foreseeable future." – *Mark Blackham, Silica Systems*

"I think the situation at the moment is terrible, especially for the end-user. Commodore are not letting anybody know what the real situation is. We've had several worried customers who are unsure if Commodore and the Amiga have a future. What's the point of investing a lot of money in a new hard disk if the machine is going to become extinct? If Commodore don't get their act together, we might even consider concentrating more on other computing platforms." – *Tony Inahri, Power Computing*

"This is a watershed for Commodore – it is potentially a very attractive purchase. There are plenty of interested parties out there, and Commodore will probably become a stronger company as a result of their current trials. We've had no reports from any of our clients about overly concerned customers.

"This is normally a quiet time of the year anyway – by spring demand drops almost to a trickle. This seasonally quiet period should work in Commodore's favour; it will allow them to restructure the company without affecting sales a great deal.

"It would be inconceivable if a powerful brand like the Amiga would be allowed to die. We will continue to support the Amiga whole-heartedly. Its technology alone is enough to ensure that it will not only be around in the autumn, but will make a huge impact on Christmas computer sales." – *Don Carter, ZCL*

"I've been expecting this for well over a year now. They have been treating suppliers and users badly for a while, and this was almost inevitable. Their blinkered marketing and narrow distribution have alienated the company. As it stands, the company is still attractive and will probably be bought by a large company.

"Whether or not someone like Amstrad will be the ideal company to do this is debatable. Hopefully the owners may develop a multi-platform Amiga, a bit like the PowerPC, which is needed to match current trends. The Amiga's strengths go beyond Commodore's credibility and we will be supporting this excellent product for some time to come." – *Brian Cobley, First Computer Centre*

"We have been expecting Commodore's position for the last seven to eight months. We are now in a wait-and-see situation. We have several new products lined up for release this autumn and see no reason to delay their release.

"A Commodore without any debts is bound to find a buyer soon. There is so much technology to be gained by a potential buyer, as well as a large user base. We have kept all of our clients informed of the situation and very few seem worried. When we started out we felt that the Amiga was the best platform for video production, and we still do. We'll continue to support it." – *Paul Schmidt, NewTek*

Computer Deals '94

If you're looking for a computer-bargain, you might consider popping along to Computer Deals '94. The event will be held from July 22–24, at The National Hall, Olympia Exhibition Centre, Hammersmith Road, Kensington, London, W14 8UX. Prices of admission are as follows: £7 for adults, £5 for children and £20 for a family (two adults and three children). To purchase a ticket, call ☎ 0369 5335.

Dimensions price cuts

New Dimensions is reducing the price of its popular Technosound Turbo 2 Advanced Sound Sampling System to £39.99 RRP from its original price of £49.99. If you snoop around mail order companies you might just find a copy of the original Technosound Turbo for a bargain price. New Dimensions can be contacted on ☎ 0291 690933.

SyQuest extend Warranty

Removable storage device specialists, SyQuest Technology, have just extended their warranty on 3.5-inch 105 and 270Mb hard drive cartridges to five years. SyQuest has made this decision on the basis of the results of the field tests that have been performed on existing drives and cartridges. Speak to your nearest SyQuest dealer for more information on the new warranty and the SyQuest range.

Price reductions from Silica

Silica Systems are reducing the prices of several pieces of hardware and software. The A4000 030 goes down by £200, and now starts at £999 for a system with 4Mb of RAM and a 214Mb hard drive, as well as whopping bundle of software.

Buy a copy of *ImageFX 1.5* along with your Amiga and you can get it for just £100 – a saving of £80. The latest version of GVP's IV24 video and graphics board is available from as little as £749. There are plenty of other reductions. Call Silica Systems on ☎ 081 308 1230 for more details.

Mastering

Manchester Business School and the department of Computer Science at The University of Manchester are now running a master's degree that intends to create a new breed of business professionals. It's hoped that the new Master in Business Information Systems will equip future managers with the skills required to cope with the constant changes in information technology that are becoming essential to the development of today's business world. For more details on this innovative programme, call the Admissions Secretary, Postgraduate Centre at Manchester Business School on ☎ 061 275 6309.

Sound Advice

Blue Ribbon SoundWorks Ltd., the makers the highly-regarded *Bars and Pipes Pro* and *SuperJAM*, are giving advice to anyone, not just their customers, and for no charge! The company is willing to help those who wish to enter the world of MIDI music on the Amiga. The company has set up a help line and will also accept written enquiries. You can call them on ☎ 081 332 6959 between 11.00am and 4.00pm.

Computer Graphics Expo

The Computer Graphics Expo will be held on 8–10th November 94, at the Wembley Conference and Exhibition centre. The show will have the backing of the Computer Graphics Suppliers Association who represent over 90 of the country's leading graphics companies. The show will cover special effects, simulation, virtual reality, animation, multimedia and visualisation. To find out more, call ☎ 081 995 3632.

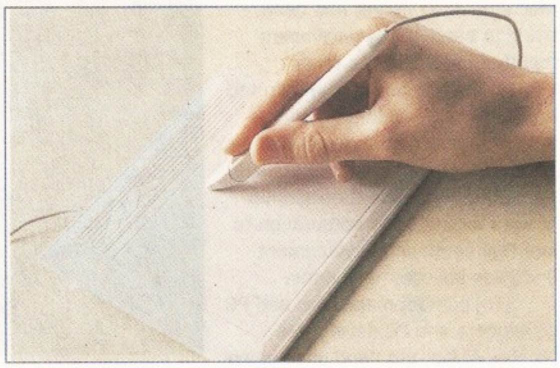
Star printers fall in price

Star Micronics, the company that have brought us such well-known printers such as the LC-100, have announced severe price cuts. The RRP of some of their most popular printers have fallen in price by as much as 25 per cent. For example, you can now pick up a LS-5 laser printer for an RRP of £519, instead of its pervious price of £609. For more information on Star Micronics' products, call ☎ 0494 471111.

Found: one Ginger Tabby

The Tabby is a graphics tablet; it has been available for the Atari ST and IBM compatible PCs for some time. The reasons it has been so popular, especially on the PC, is that at £49.99 it is phenomenally cheap. The tablet has an impressive resolution of 2048x1536 elements; this makes it ideal for both high-precision work, such as CAD, and for freehand drawing.

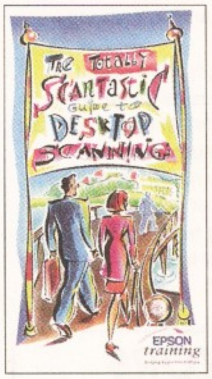
The only thing the tablet lacks is pressure sensitivity, which is a bit much to ask for under £50. The driver software supplied runs as commodity that only takes up 35K of memory, but it does need Workbench 2.04 or higher to operate. The Tabby works through mouse emulation, so it should work with most of your software and Workbench. If you like to find out more about the Tabby, contact First Computer Centre on ☎ 0532 319444.



The Tabby is ideal for high-precision work such as CAD.

It's Totally Scantastic Mate!

Epson, the makers of the popular range of Epson scanners, have just produced a free 100-page book entitled *"The Totally Scantastic Guide to Desktop Scanning"*. This pocket-sized publication aims to give the reader more than a few technical expressions that can be glibly trotted off at board meetings. It covers all aspects of scanning and even some of DTP. It gives a clear explanation of scanner types such as: handscanners, flatbeds, cameras, and even PhotoCD.



"The Totally Scantastic Guide to Desktop Scanning" from Epson covers all aspects of scanning and even some DTP. And best of all – it's free!

The book also explains how scanners work. It is quite in-depth in its explanations, even covering CCD sensors (Charge Coupled Device) which have always seemed a little mystical to most computer users. It also introduces the reader to many important principles that will be needed to obtain the best results from your scanner. Some of the principles discussed are: image resolution, pixel depth, half-toning, interpolation, Gamma correction, and dithering techniques. It explains the differences between graphics formats, including bitmap images and vector drawings.

In order to ensure that what is printed out is what you expected, the book explains how monitors and printers work. This is not too in-depth or confusing, but provides enough information to ensure that you get the best out of your available equipment. To obtain your free copy of *The Totally Scantastic Guide to Desktop Scanning*, call Epson (UK) on ☎ 0442 61144.

New Genlock from Germany

German genlock specialist, Electronic-Design, have just announced the release of its new genlock – the Neptun-Genlock. It was first seen at CeBIT 94 where it was favourably received. The Neptun-Genlock, like the rest of Electronic-Design's genlocks, can be used with an Amiga, PC-Pegasus, PC, or any combination of machines. This can be particularly useful if you have a multi-platform studio. The genlock's main selling points are its low price, ease of use and high-quality images.

The genlock will be supplied with some impressive software. It should provide extensive control over the genlock; it will also have a standby mode and video-enhancing abilities. Another feature is the software's Key invert function; this can be used in conjunction with a computer image to create a "mask" over video images. This feature is something that is usually associated with much more expensive systems. As well as being able to perform manual fading there are options for automatic fading, such as using *Scala* scripts. There is full support for ARexx and for Hotkeys. However, the genlock's most powerful feature is its extensive use of Alphachannels. The software can use Alphachannels to create special effects, such as semi-transparent shadows and backdrops. They can also improve computer generated images by using the Alphachannel's semi-transparent pixels to antialias the images.

The Neptun-Genlock is promising an impressive range of features for a reasonable price, approximately £490, and can be obtained from Electronic-Design ☎ 010 49 89 3545303.

FORTHCOMING ENTERTAINMENT

Come October it will be show time once more as the *Future Entertainment 94* opens in London.

Due to be held in Earls Court 2 from 26th–30th October, the show follows on from last year's packed-to-the-gills *Future Entertainment Show*.

If you attended last year's show, you may have noticed a bias towards the various games consoles. Things are going to be different this year, with the emphasis being very much on home computing. Hurrah!

As well as the sort of exciting product launches and bargains that you'd expect to see, there'll also be three theatres. These will be hosted by the editors of this and Future Publishing's other computing titles, and will be there to give you the opportunity to have your queries answered and see the latest developments. There'll be seminars on getting the most from your computer, upgrade advice, pushing applications to their limits, and meet-the-programmers sessions.

There's also be purpose-built demonstration areas covering "Creating a Home Office" and "Computers in Education."

More details as they appear... don't miss it!

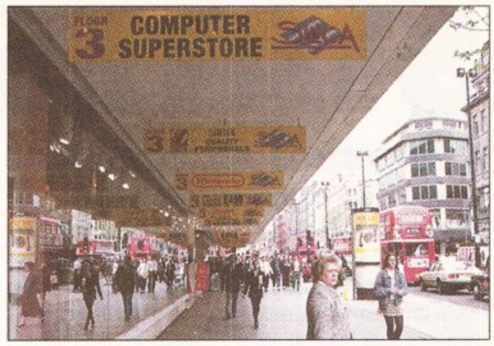
Silica shops across the nation

Silica Systems, one of the largest hardware and software mail-order companies, is in the process of opening a chain of 20 shops up and down England. The stores will feature futuristic decor and unique demo testing pods for shoppers to test products. Ken Browning, Silica's Retail Controller, hopes the environment they have created "will capture the excitement of modern technology for those new to computing, as well as the experts."

The company have gone into partnership with Debenhams and their stores will primarily be based in Debenhams department stores. This should give the company a large enough launch-platform to be able to successfully take on current high-street electronics stores.

One the stores' strong points will be the staff – they have all undergone rigorous training. Silica's courses not only instill a commitment to customer satisfaction, but they also give the staff a good grounding in the technology. This means they can really help you, rather than just recite some technical spiel they have learnt by heart.

Silica have already enjoyed huge success with their mail service and we would like to wish them well in this their latest endeavour. Here's a list of cities where stores will be opening: London–Selfridges, London 52 TCR, Sidcup–Kent, Croydon, Southend on Sea, Ipswich, Manchester, Chelmsford, Glasgow, London Oxford Street, Bristol, Guildford, Southampton, Romford,



Silica is opening a chain of 20 stores especially equipped to capture computing enthusiasts.

Sheffield, Luton, Plymouth, Hull, Harrow and Bournemouth. If you want more information about the stores, call Silica on ☎ 081 309 1111.

£5000 3D Holo – Art Competition

The 24-Bit Club and Munday Spacial Imaging are running a competition for Amiga-owners who want graphic creations turned into a hologram. The combined value of the prizes is in excess of £5000! Send your complete 3D scene, including textures, and they'll do the rest (but nothing protected by copyright, such as Essence textures). There are three categories to enter: Science-Fiction/Fantasy, Photo-realistic and Organic/Abstract. Send to: 3D Holo-Art Competition, 24-Bit Club, 6 Skirsa Square, F/1, Glasgow, G23 5DW, before 28th October 94. Even if you don't win, you may get your work commissioned.

PAL LIGHTWAVE ON ITS WAY

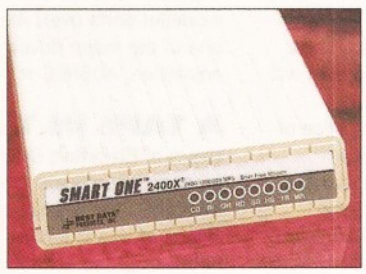
Great news for those of you who've been lusting after the fabulous *Lightwave* rendering package bundled with NewTek's Video Toaster – NewTek are planning to release it as a stand-alone package.

The stand-alone *Lightwave* is due for release in a month's time, and will be compatible with PAL Amigas. The rice is $699, which should equate to around £599. NewTek ☎ 010 1 913 354 1146. More details as we get them…

SIREN GET SMART

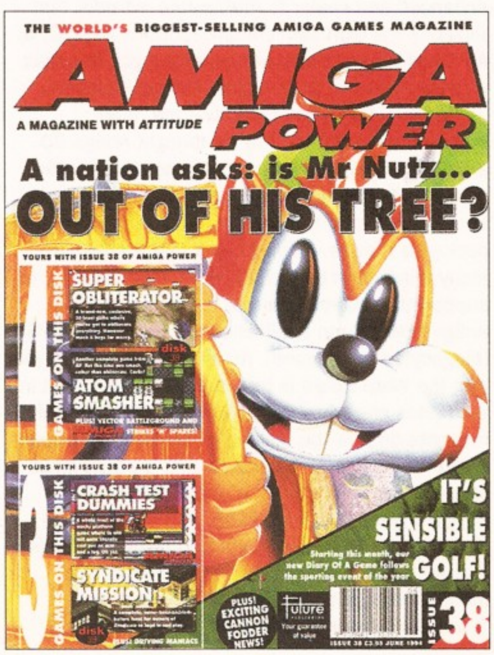
Siren Software are now stockists of the high-performance and low-cost Smart One range of modems. All of the modems will be supplied ready-to-run, with a copy of the excellent *NComm* communications package, an RS232 cable, power supply, a two-year warranty and a helpful "getting started" guide.

The Smart One 1442FX is just one of the range of modems from Best Data Products. It is competitively priced at £199 and offers plenty of features. It is fax group III compatible, sends and receives fax data at 14400bps, full duplex at 14400/12000/9600/7200,4800,2400/1200bps, automatic pulse or tone dialling condition dection, supports CCITT V42bis/V32/V22bis/V22/V21 and Bell212a. Its LED unit can display whether the modem is in several different modes such as: Auto Answer, Carrier Detect, Off Hook, Receive and Send Data, Test Mode and Ring Indicator. All in all, it's a pretty comprehensive list of functions for an impressive price. Contact Siren Software on ☎ 061 724 7572 to order, or for more information on this range.



The low-cost Smart One modem.

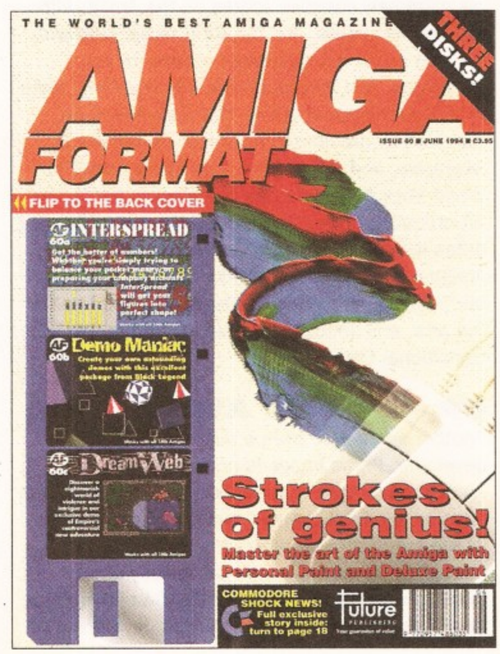
MEET OUR SISTERS



In case you don't know already, let us tell you about, and recommend from the bottom of our hearts, our two sister magazines. Coming from the same stable as *Amiga Shopper*, they are, of course, filled to the brim with the sort of high-quality editorial you would expect.

Over to the right is the cover of the latest *Amiga Format* – the world's best-selling Amiga magazine. It's on sale at this very moment. Inside you'll find all sorts of information for the general Amiga enthusiast, including *Strokes Of Genius* – a huge feature on painting and drawing with *Deluxe Paint* and *Personal Paint.* With the magazine you'll also get three cover disks containing: *InterSpread* – a spreadsheet; *Demo Maniac* – a utility for creating graphical and audio demos from Black Legend; and top new game *Dream Web*.

To the left is the latest issue of *Amiga Power*, the magazine "with attitude" for the true Amiga gamer. On sale at the moment, it comes with two cover disks, including exclusive games *Super Obliteration* and *Atom Smasher*, and carries a review of *Mr Nutz*, a feature on censorship, and the programmers' story of *Sensible Golf*'s creation.



STATESIDE SNIPPETS

R Shamms Mortier, our man across the pond, brings you the hottest news.

NEWTEK NEWS

As most Toaster owners know, the poorest part of the Toaster collection of attributes is *ToasterPaint*, which as a 24-bit paint program is far behind other paint programs available for the Amiga. There are rumours that NewTek is designing a replacement paint module that will rival any paint program on any platform, thereby upgrading the whole Toaster system another step. Now comes news (from my unnamed private source) that there is the highest degree of possibility that some kind of retargetability, addressing other 24-bit boards, is being thoroughly explored as a part of this process. That means that it just may come to pass that owners of Harlequin, Picasso, Retina, and other Amiga 24-bit boards will be able to see their *ToasterPaint* artwork on very state-of-the-art screens. Wouldn't that be nice?

Amiga watchers who have fantasised that NewTek might either single-handedly, or in cooperation with others, buy Commodore out from under the guns should wake up. NewTek is going full speed ahead with ports of the Toaster technology to IBM, Mac, and SGI platforms, thereby distancing themselves from Commodore foolishness. Newtek ☎ 0101 800 843 8934.

A LOT OF NERVE

Any of you who are fans of Electronic Arts *DMusic* software and who also operate MIDI equipment will want to investigate Nerveware's *RiffGrabber* software. *RiffGrabber* will actually grab any slice of music that you play and transfer it exactly as played into *DMusic* notation. That means that any quirks in the rhythmic content are ported over correctly, addressing a fault in *DMusic's* inability to do that. *RiffGrabber* can be purchased directly from Nerveware for only £75.

Just as interesting as the Nerveware *RiffGrabber* product is the fact that Nerveware's CEO, Nick Didkovsky, is becoming a major composer of world renown, and that he is absolutely committed to using the Amiga as a creative tool in the process. He composes all of his extremely complex scores on the Amiga with the help of *DMusic* and his *RiffGrabber* software. He also prints out separated scores for his musicians, and then performs live at various sites in NYC and internationally. His work has been reviewed by the *New York Times*, *Guitar World Magazine*, and *Ear Magazine* in France. His New World Rock Orchestra has two albums out (cover art produced on the Amiga as well), and upcoming dates include the Lincoln Centre in New York. Amiga musicians should know the depth to which our beloved platform has integrated itself in all of the arts, and should keep this in mind during this transitional time.

UP, UP, AND AWAY

Another small note from a superlative Amiga developer. Prime Image is known for many hardware products that support the Amiga and the Toaster. We have learned that the quality of their image enhancement products are valued high enough to incorporate their technology on the latest Space Shuttle missions. NASA chose Prime Image because of its reputation as developers of products of the highest broadcast quality performance. Prime Image ☎ 0101 408 867 6519.

NEWS FROM THE LAMP

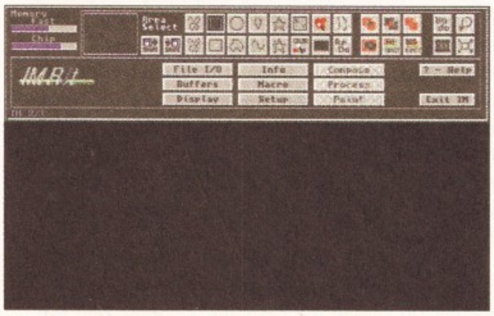
Most *Aladdin-4D* owners now have the eleventh issue of the Aladdin newsletter, along with a new "free" version of the program (3.2). New textures include: "Deadleaves", "Sunset", and a red-blue star texture. There is also a series of drawing projects accompanied by tutorial text. These projects include: a Nut and Bolt drawing, a Dipping mechanical Bird, a Beam-Me-Up project, a Spiral-Drop, and a Stars-Planet project. Most of these are the results of submissions by *Aladdin-4D* users.

OPEN ARCHITECTURE

ADSPEC Programming's decision to open the doors of the *Aladdin-4D* software as wide as possible to other developers wishing to create new tools is paying off much sooner than expected. Several developers have already jumped on board so that new tools will continue to appear for free in the *Aladdin's Lamp* newsletter, as well as to be offered for modest prices. The newer tools point the way to a future opening up of the renderer as well, meaning that you'll be able to use many other separate renderers to accomplish what the *Aladdin* modeller ports over. *Aladdin-4D* continues to be one of the major driving forces in Amiga 3D art and animation. ADSPEC ☎ 0101 216 337 1329.

A TAPE IN TIME...

Users of BlackBelt Systems' *ImageMaster* image processing software are in for a long awaited moment... the release of supportive instructional videos of this extensive and complex software. Because of the constant upgrading that *ImageMaster* goes through (about seven or eight major revisions a year), BlackBelt decided to forgo the printing of a manual in favour of on-screen help files. This is all well and good, but has done little to give users a comprehensive overview of what is possible and how to do it. Welcome to Kinetic Visions, a separate company that is now marketing a videotape and disk tutorial package for *ImageMaster* users. Sales have already been brisk on this hot item, and it looks like there's no way but up ahead. The tapes (three in all) took over ten months to put together, and are current with the present "RT" version of *ImageMaster*. Every aspect of *ImageMaster* is addressed, and both seasoned and new users should be able to jump far ahead of the image processing game with these tapes in hand. Contact BlackBelt for more info. The instructional package, by the way, sells for about £105. Blackbelt ☎ 0101 800 852 6442.



The Imagemaster RT main interface (from which you can access dozens of other menus and screens) shows why the tutorial tapes mentioned are an absolute necessity.



A wonderful ringed planet animation from the Aladdin's Lamp newsletter.

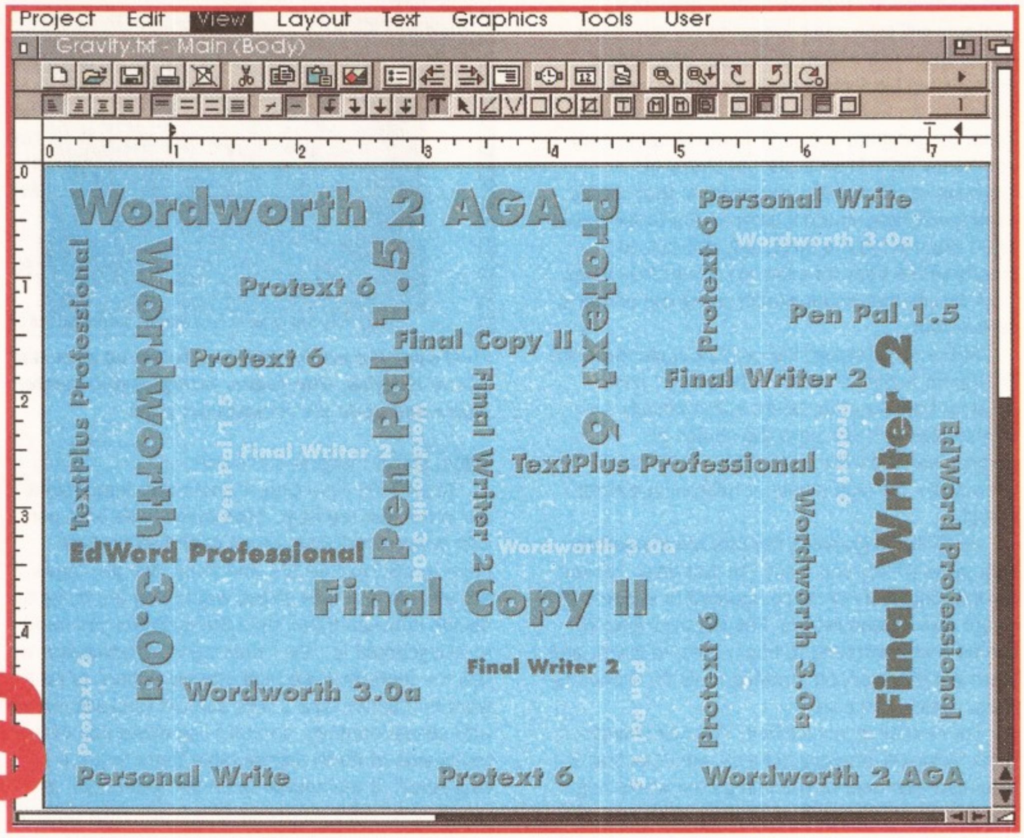
MORE NEWS ON "FREEFORM"

Two issues ago I told you about a new 3D design package called *FreeForm*, which at that time was in late stages of development. Well, the time has arrived for its release to the marketplace with version 1.7 (about £100). *FreeForm* is unique because it is a separate 3D "spline" based editor that outputs to other rendering software. At the moment it writes to the object formats of *LightWave*, *Real3D2*, *Caligari*, and *Imagine*. Under consideration for the near future are *Aladdin-4D* and *POV* formats. Spline editing allows for the creation of much smoother organic objects and transitions. With the plans by NewTek to create a PAL version of the Toaster, the way that this software addresses *LightWave* modelling should prove very valuable for PAL users.

The release version offers the following enhancements over previous Beta releases: **1.** Tween by tween morph stepper so that each frame of an object morph can be saved out as a separate *LightWave* file; **2.** More tools to address the *LightWave* "Bones" functions; **3.** A very fast 90 degree rotation of objects in any XYZ plane; **4.** An enhanced and easier to manipulate extruder that replaces the extrusion complications in *Real3D*; **5.** An "Only These" function that allows you to select a range of points on an object for manipulation.

When I asked Furi Owurowa, the head programmer and CEO, why he thought Amiga 3D artists and animators would want to invest in his software, he replied that *FreeForm* was an easier to use spline editor than that found in the other packages that he writes to, and that it could do many things that they can't. He is also planning to support the "Warp" board, a transputer for the Amiga that will run applications at up to 300 MPS (Megabytes per second). As an aside, I can tell you that the Warp Board is real, and is now resident in the hands of several Amiga developers. As for his thoughts on how the sinking of Commodore would effect his business, he replied that it would make little or no difference. He is committed to supporting his customer base, and of marketing his wares to all Amiga artists and animators. This is exactly the reply that we all appreciate, and matches that of the majority of developers. Owurowa Software ☎ 0101 718 996 1842. AS

The War of the Words



Jeff Walker's mammoth round-up of word processors includes every commercial package and a couple of shareware ones, too. Find out which is best for you...

What a difference a year makes. Since our last word processor roundup in issue 25 we've laid to rest four of the nine packages that were on sale in the UK at that time – *Excellence*, *Scribble*, *TransWrite* and *KindWords3* – and the two packages that came out top in that roundup, *Wordworth2-AGA* and *Final Copy II*, have incubated into two new packages, *Wordworth 3* and *Final Writer*. Two other battlers, *Protext* and *Personal Write*, have changed enough to have jumped by one whole version number. Even *Pen Pal*, which hasn't changed significantly for three years or more, has got a new manual and had a tenner slashed off its suggested retail price.

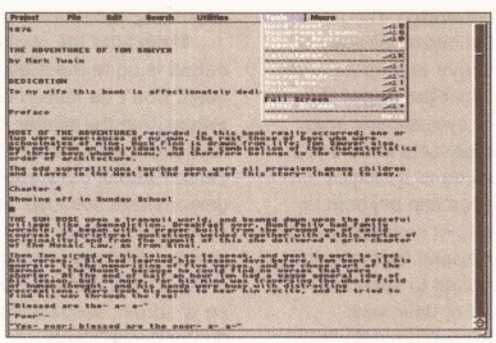
The New Horizons word processors, *ProWrite* and *QuickWrite*, are still unavailable in this country so we've again decided not to waste space by including them in our roundup. Instead we've roped in two shareware packages that are available, *EdWord Professional* and *TeXtPlus Professional*.

There are two sections to this word processing feature. In the second section we'll be directly comparing how well each of the packages handle formatting, graphics and printing, but in this first section we'll be looking at each package individually and pointing out specific strengths and weaknesses, highlighting the major advantages and disadvantages of each word processor in turn. So there can be no allegations of favouritism the packages are discussed in alphabetical order, which means the honours go to...

EDWORD PROFESSIONAL

EdWord is a UK shareware package, costing £10 direct from the author, and its cheap price is certainly its major advantage. The author of *EdWord*, Martin Reddy, explains at some length in the on-disk documentation that *EdWord*, despite what you might infer from its name, is not a word processor, merely a text editor. The difference, according to Martin, is that text editors are just for bashing out words and saving plain text files, and are therefore more suited to the needs of programmers, whereas word processors are for setting out the text on the screen as it will be displayed on the printed page.

EdWord contains very few word processing features indeed – it is even impossible in *EdWord* to alter the width of a document or paragraph without resorting to an ARexx script. In Martin's defence he makes no claims that *EdWord* is a word processor. All of its strengths are geared toward programmers – record and play macro facilities; an automatic text caser that picks out keywords and/or variables of 14 popular programming languages in upper case, lower case, capitalised or as specified in the supplied keyword file; a symbolic indentation feature... All this and more makes me wonder why it is called *EdWord* and not *EdProg*.



***EdWord Professional* has a split screen feature that enables you to have two documents on-screen at once, and cut and paste between them if you like.**

The reason for including *EdWord* in this roundup was not to put it down – I'm sure many programmers will find it very useful indeed – but so that you would not make the same mistake I did in inferring from its name that is is something which it is not. If you are still using an old Kickstart 1.3 A500 with one floppy drive and only 512K of memory, then *EdWord's* price and spartan word processing facilities may suit you down to the ground, otherwise it is for programmers only.

FINAL COPY II

There is a clear market for *Final Copy II*, and it has more to do with what equipment you own than with what word processing features you require. If you are still using Kickstart and Workbench 1.3, and/or if you do not own a hard drive yet, and/or if you have only 1-2Mb of memory, *Final Copy II* is probably the best Amiga word processor you can get running on your system. (Although for the hard of thinking I'd better make it clear that it of course works with later versions of Workbench and a hard drive and more memory.)

Final Copy II is based entirely around scalable outline fonts (sometimes called 'soft' fonts), so its printed output is always the best that your printer can manage. That's the up-side. The down-side is

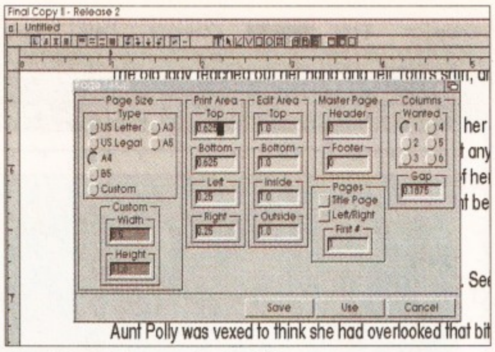
that printing with scalable fonts means that printouts will take much longer to roll out of the printer than with a word processor that uses a printer's built-in fonts (which are not usually scalable). As well as the rare NimbusQ scalable fonts, the program supports Compugraphic and PostScript Type 1, so there are plenty of inexpensive PD and shareware fonts that can be used to brighten your documents. For those times when you want just a quick text printout, to proofread the copy for example, *Final Copy II* has Draft facility that prints quickly using the printer's default font.

At the other end of the printing scale there are PostScript facilities – mono and colour, non-resident PostScript fonts are automatically downloaded and you have the choice of parallel/serial printer and portrait/landscape orientation. No crop marks or halftoning control though.

All IFF-ILBM graphics formats are supported, right up to IFF24, and since the last time I looked at *Final Copy II* it has been updated to support 256-colour AGA screen modes. The depth of graphics can be arranged (send to back, bring to front), and there are some simple drawing tools for producing lines, circles and boxes.

Font handling is excellent. You can change fonts by simply dragging a block and selecting or loading a new one, or you can go the whole hog and set up style sheets so that all attributes of a font (name, style, size, line spacing, colour and so on) can be applied to a block of text with one menu selection rather than a dozen or so.

Master pages enable you to easily produce multiple-page documents that have a number of the same elements on each page – headers, footers,



Final Copy II contains facilities to set up page and printer margins, title pages, facing pages, master pages and up to six columns per page.

logos, global margins and so on.

At £49.95 *Final Copy II* costs £50 less than it did in the last roundup. Back then it was on a par with Wordworth2-AGA, which itself has dropped price by £80 to £49.95, and these two packages are still nip and tuck all the way. If you are trying to decide between them, then the question you need to ask yourself is: "Do I want my word processor to use the fonts that are built into my printer, or do I want PostScript Type 1 font support (and will put up with slower printing), so that I can make use of the thousands of freely distributable fonts that are available?" If the answer is printer fonts, look at *Wordworth2-AGA*; otherwise check out *Final Copy II* because it may be better suited to your needs, and you may find it easier to get to grips with.

FINAL WRITER

The major disadvantage of *Final Writer*, to the majority of UK users at least, is that it requires a hard drive. This suggests that it is a serious tool aimed for serious users, as indeed it is.

One of *Final Writer's* best features is the way you can split large documents into formal sections. If you were preparing a book you could have a title page section, contents section, a preface section, a section for each chapter, an endnotes section, a bibliography section and lastly an index section. Each section is like a document in its own right, with its own master pages, its own page sizes, margins and number of columns, all of which may be different from any other section. You work on one section at a time, which means that a change made half way through a document does not result in all text thereafter being shunted around, only as much text as there is till the end of the section, making for greater editing and formatting speed. Of course you can simulate this with any word processor by saving each section as a separate document, but having it all there with one load, any section just a quick menu selection away, is so convenient you wonder why no other Amiga word processor developer ever thought of doing it.

Final Writer's seriousness is further illustrated by its eight user-configurable button strips. These are no ordinary button strips, these are not the kind of button strips that you can build from a number of fixed functions, half of which you may have no use for, these are the kind of button strips to which you can attach any menu command, any string command (ARexx command), any ARexx script, or any text clip (often used piece of text). Novices may faint at the thought of such complexity, but more experienced users will understand how powerful this makes the program as you can customise it to work the way you want it to work rather than the way the developers think

BEGINNERS START HERE

Why do you need a word processor at all? The answer is obvious – to write with.

So why not use a typewriter? Or longhand? After all, many millions of books have been written without the aid of a word processor. Do you really need one? Yes, you do. Even if it's only to write letters. OK, when writing to friends and relations it isn't very important to impress, but a stylish, well-presented letter can make the world of difference when writing to the bank manager or when applying for a job. Or when writing to *Amiga Shopper*.

The problem with writing things out longhand or with using a typewriter is that you have to start at the beginning and go on until you get to the end. If, when reading through what you have written, you discover that you've left something out, put something in the wrong place, constructed a paragraph or sentence poorly, misspelled a word... you have to start all over again and re-write at least the whole page, maybe even the whole document. With a word processor you just load the file and correct it.

So word processors save you time. And they can also improve the quality of your writing. Because you can cut-and-paste sections of text around a document, you are not forced into presenting what you have written exactly as you typed it. For example, you can bash out ideas, sentences and paragraphs as fast as they come into your head, then go back and expand on them, then move the sections into a sensible order. If it doesn't all hang together, then you can change something, try out a new idea or mess around until inspiration makes one of its fleeting visits. Sounds disorderly, I know, but this approach is a recognised way of generating new ideas. It's called *being creative*.

After you've written your piece you can use the layout facilities of the word processor to prepare and subsequently print the pages in a professional or eye-catching style. Some word processors enable you to include pictures or 'graphics' on the pages, so you can brighten up business reports or newsletters with diagrams and graphs for example.

If you are going to spend a serious amount of time word processing then you are going to need more than just a standard Amiga. While your computer will work happily with the spare TV, sitting up close staring at that poor quality screen for hours at a time is going to end in tears. Not tears of frustration, tears of pain. You will eventually begin to suffer headaches. You need a monitor.

If you want to print your documents, then you need a printer. Do not rush into this decision. On no account buy any old printer – including that second-hand *bargain* from the bloke down the pub – until you know for certain that there is an Amiga printer driver for it. How do you find this out? Simple. Ask to see it working on an Amiga. Make sure that it prints text and graphics without any spurious characters appearing in the output.

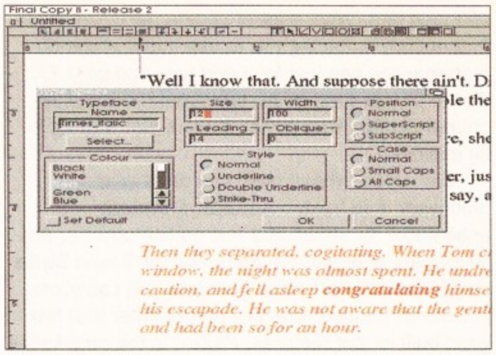
Make sure the quality of the output is up to the standard you need. Don't be fobbed off with the excuse that the printer is capable of far higher quality output than the person selling the printer can demonstrate because he is inexperienced with the Amiga. If the person selling you the printer can't make it work properly, don't assume he is stupid, assume that the printer doesn't work.

Just as important as a good monitor and adequate printer is a second floppy disk drive. Even if the word processing system you choose can run from one disk – and some can't – you will want to save your documents on to a separate disk. With a single-drive system you will be forever swapping disks, which very quickly becomes tiresome.

Most important is extra memory. Although some Amiga word processors will work with only 512K, after they have loaded they will leave precious little room in memory for your document. Spell-checking? Forget it, unless the spelling checker is a separate program.

At the very least you should consider expanding to 2Mb of total memory. And A1200 owners (who already have this amount of memory) should seriously consider fitting a trap-door expansion board because, apart from the extra memory gained, this action alone will double the speed at which the A1200 operates.

If you are serious about word processing, and you have got some savings put by, then a hard drive is going to transform your slow, floppy-munching, glorified games machine into a helluva serious productivity tool. With a hard drive attached everything becomes so much easier to work with and understand.

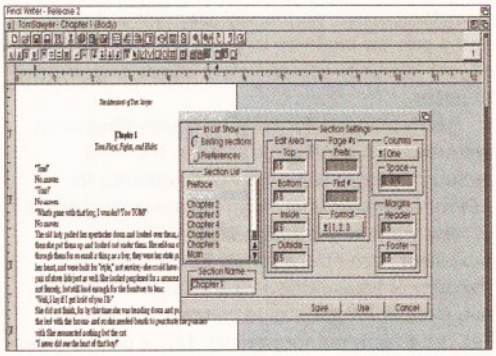


The Type Specs in Final Copy II enable you to set a multitude of font attributes so that a text style can be simply selected with a single menu pick or keypress.

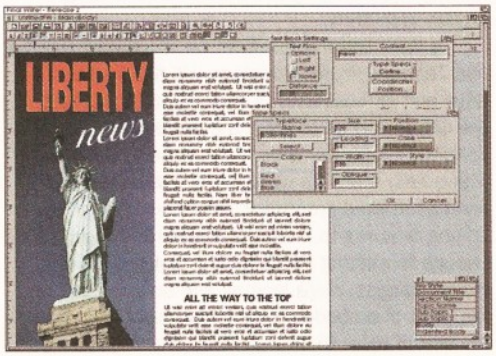
you may want it to work.

Like *Final Copy II*, from which it grew, *Final Writer* is based entirely around scalable outline fonts. It has the same Draft printout facility for quick text-only pages, but apart from that all output uses either NimbusQ, Compugraphic or PostScript Type 1 fonts, which means documents take longer to print, but look deeply wonderful when they do at last crawl off the platen. PostScript output facilities have been extended to cater for halftoning (line density, screen angle and even round dot or line halftones), plus thumbnails, crop marks, scaling, page sizes (but no offsets) and whether fonts should be downloaded once only, or downloaded, used and unloaded every time the printer needs them, which conserves printer memory.

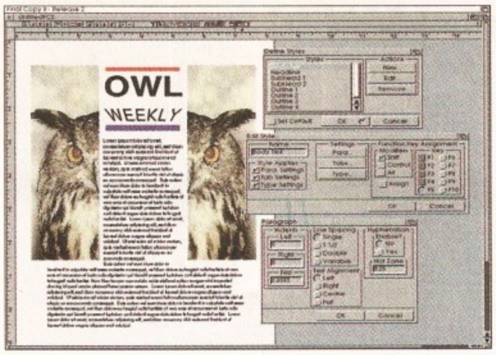
A more comprehensive style sheet system than the one in *Final Copy II* has been implemented, and I almost missed the fact that in Release 2 a Bullet effect has been added which will automatically stick a blob at the beginning of every highlighted paragraph, a feature much used by writers of reports and technical manuals.



Final Writer's sections system can be a fantastic productivity aid for professional writers.



Final Writer's style sheets are comprehensive, and the floating styles palette makes selecting or changing styles much easier than having to remember a keypress or go hunting in a menu.



Despite its lightweight features list, Final Copy II can produce stunning documents once you forget about what it hasn't got and learn to take advantage of the features it does have.

All IFF-ILBM graphics formats can be imported, IFF24 included, and displayed in up to 256 colours on AGA machines, but arguably the single most brilliant feature of *Final Writer* is that it can import standard EPS (Encapsulated PostScript) structured art, and these may be displayed on the screen and printed to any type of printer. And I mean all EPS files, not just *Adobe Illustrator* format. I have even *printed* pages to disk as EPSF from *ProDraw* and *ProPage* and had them import, display and print perfectly in *Final Writer*. Even EPS files which have bitmaps and downloaded fonts in them can be displayed and printed in their entireties.

If you are looking to buy *the best* Amiga word processor, then the only reason I can think of to pass over *Final Writer* is because you want your word processor to use the fonts built into your printer, something which *Final Writer* cannot do, except with PostScript printers of course. Ah, just remembered another reason; if you don't own a hard drive you can't use *Final Writer*.

PEN PAL

Pen Pal was written a long time ago. Way before scalable fonts came to the Amiga. Back in the days when your average home printer came with two built-in fonts: upright and italic. Consequently *Pen Pal's* printer font support is limited to using a single *default* printer font in the four common styles – normal, bold, italic and underlined – and its soft font support is limited to Amiga bitmapped fonts, and these print as they appear on the screen, with jagged steps around curves and along diagonals. If your printer contains more than one built-in font, then to get *Pen Pal* to use it you will have to use your printer's control panel to make this font the *default* font, and if it is a proportionally spaced font, then what you see on the *Pen Pal* screen is not going to be what you get on the paper.

This printing inadequacy means that anyone who wants to buy a word processor in order to lay-out and print quality documents should steer well clear of *Pen Pal*.

Graphics support is out of date as well. *Pen Pal* will import all the pre-AGA IFF-ILBM graphics formats – 2-64 (EHB) colours, plus HAM – but not 64, 128 or 256 colour graphics, nor HAM-8, so it might be a poor choice of word processor for an A1200 or A4000 owner.

The program has a few strengths, the greatest one being its ease of use. Young children, and adults new to computing, may find *Pen Pal*'s user interface a lot easier to navigate than a standard Amiga word processor. Not because it is better or more powerful, but because it is simpler and almost everything is very obvious because the mouse pointer has a *flag* attached that almost always contains the name of the function of the button it is hovering over. Because of its relatively small size, the *Pen Pal* package is simpler to run from floppy disk, another boon for beginners.

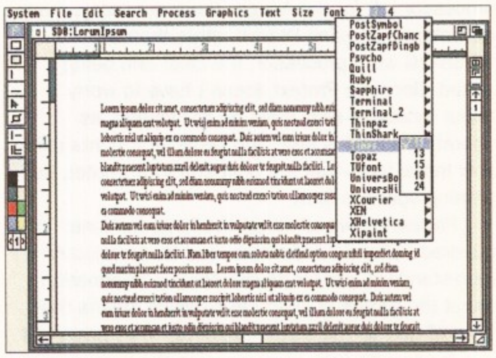
I always feel guilty criticising *Pen Pal* because it is the obvious choice for out and out beginners, but its lack of real document processing power means it should be bought as a first step, as an *entry level* word processor, not as the word processor you intend to use for ever and ever amen.

BLITS & BOBS

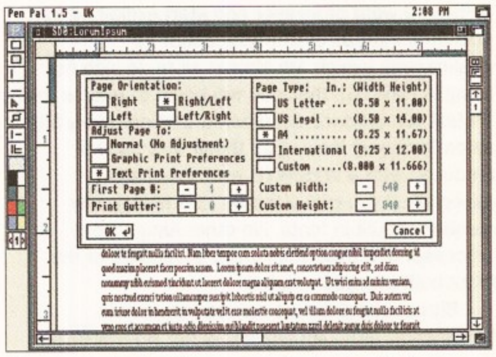
A keyboard that contained all 7,000 Japanese characters would have to be the size of three ping-pong tables end to end.

PERSONAL WRITE

Personal Write is a word processor in the old fashioned sense of the term, by which I mean it is a program for processing words, not words and



To beginners Pen Pal looks like the bee's knees. Only after they have bought it do they realise that its printed output is poor because it supports only bitmapped fonts.



If you want a custom page size in Pen Pal you have to specify it in printer dots. Not many Pen Pal users use custom page sizes.

pictures. Sure, it has a rudimentary Import Graphics feature, but this is of little practical use, merely window dressing.

The program's greatest attraction is its low price, and it sports one or two surprisingly sophisticated features for such an inexpensive word processor. For example, it is not a WYSIWYG word processor, yet it is able to print using up to eight of the scalable fonts built into a PostScript printer. Matching what's on the screen with what actually gets printed is difficult – well, nigh on impossible actually – but then if WYSIWYG PostScript is what you want, then you should really be spending your money on a WYSIWYG word processor with good PostScript support (or *Final Writer* to use the technical term).

Being non-WYSIWYG, *Personal Write* does not support soft fonts at all, which means it can print using only those fonts which are built into your printer. Control codes can be embedded in the text to select or change printer fonts, but this is certainly not something beginners should lumber themselves with.

I can think of only two good reasons to buy *Personal Write*. First, as it supports ANSI style codes for bold, italics, underline and changing colours, *Personal Write* would be a good program with which to create text documents that are to be read on-screen with a text reader that interprets ANSI codes. Second, *Personal Write* has a very easy to use mail merge feature.

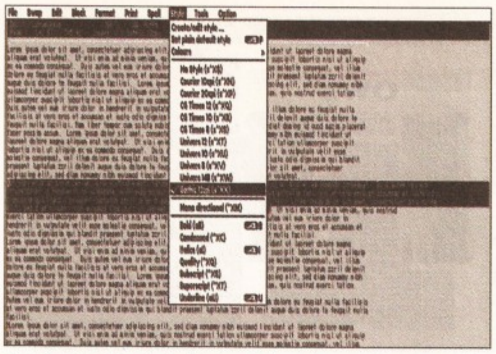
If it wasn't for its amazingly non-intuitive block marking and cut/copy/paste system it might be a good choice for word bashers, but as it stands *Personal Write* only just lives up to the word processor classification – at heart it really wants to be a text editor.

PROTEXT

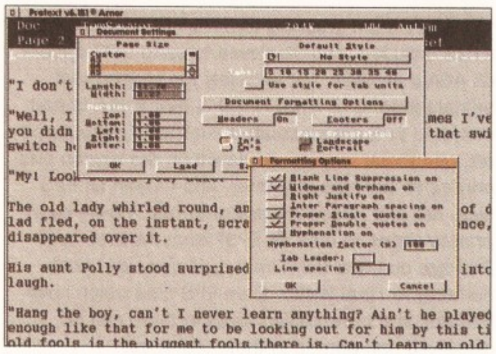
Protext is the only fully-featured non-WYSIWYG word processor left for the Amiga. There are many, many advantages of using *Protext* rather than a WYSIWYG word processor, the chief one being speed. Because *Protext* doesn't have to worry about rendering sexy fonts on the screen, its operating speed is fast, and because it prints using only those fonts that are built into your printer, its printing speed is fast.

Protext knows all about the fonts built into hundreds of popular printers, and its proprietary (non-standard) printer drivers contain information about the widths of characters, which means that lines of text on the screen, although they are typed in a fixed width font, always match the lines of text that are printed. On-screen this can result in uneven line lengths, even when flush justified, and this can take a little getting used to, but once you have accepted the fact that *Protext* is not a WYSIWYG word processor and start exploiting its strengths instead of whinging about its weaknesses (which are almost all to do with not being WYSIWYG), then you will begin to realise that *Protext* can produce documents that are every bit as professional looking as those that can be produced with a WYSIWYG word processor, especially if you own a printer that has goodly number of built-in fonts. No other Amiga word processor can take such great advantage of the fonts built into your printer.

Bitmapped graphics can be included in documents, although again it is not WYSIWYG and there is no runaround feature, so graphics can be printed only between paragraphs of text, not with text to the left or right of them. The current support



Switching fonts in Protext is a breeze because the printer drivers know about the fonts in your printer, including the height and width of characters.



Defining global document settings is easier in Protext 6 than it has been in any previous version of Protext, but the stored commands are there if you prefer to take advantage of their power.

is entirely adequate for including logos at the top of sheets, including screen grabs in manuals or charts in reports, which is really all the feature has been designed to do.

Global document formatting facilities are easy to use via a simple requester, and individual paragraphs or sections of text can be formatted differently by using different rulers. A massive *stored command* language provides incredible power over text formatting, printer output, mail merge and much more. A powerful macro and glossary system means that the program can be configured to your personal requirements. It is the sheer power of *Protext* that often has newcomers to the program reaching for the bottle. It's not that it is particularly complicated, it's just that there is so much of it. What a lot of people fail to realise is that nobody is forcing you to use these powerful features; you can just load and type and print if that is all you want to do, but should you require greater control, vast power is there just waiting to be exploited.

For people whose main use for a word processor is to bash out words, *Protext* is unbeatable for speed and text editing options, and for owners of modern printers like the Epson Stylus range, Hewlett-Packard's DeskJets and LaserJets, PostScript printers, and any other printer that has good built-in font features, *Protext* is the only Amiga word processor that is able to make the best use of those fonts.

BLITS & BOBS

Be careful how you praise or criticise the French. In France an egghead is an idiot and a jerk is a good dancer.

TEXTPLUS PROFESSIONAL

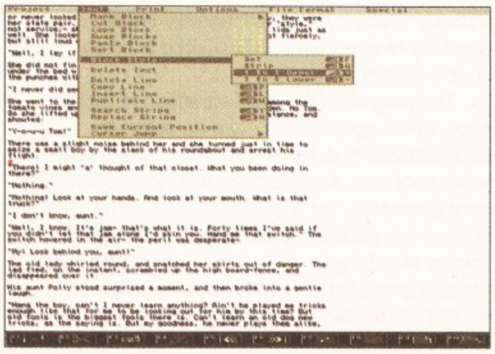
TeXtPlus Professional is the second of our featured shareware word processors, and while this one is a lot more like a word processor than a simple text editor, it is, like a lot of shareware, biased towards specialist needs.

One of the greatest Amiga secrets is the existence of a typesetting language called TeX. There are several implementations – from the commercial *AmigaTeX* by Radical Eye Software, to the freely distributable *TeX* on Fish Disks 611-616, to the splendidly named *LaTeX*, to the still-under-development *PasTeX*. What all these TeXs have in common is that they enable you to format amazingly quickly the likes of... well, anything you like really. Books and manuals are what TeXs are very good at because they turn what is a nightmarishly laborious DTP job into as little as a few hours of inserting typesetting codes.

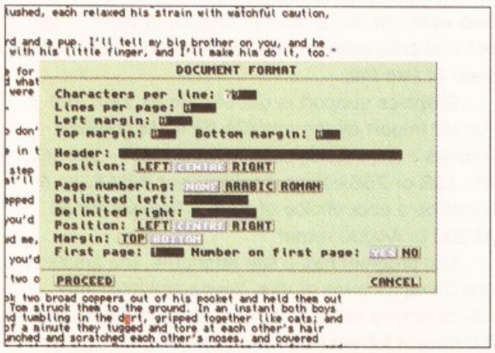
But even inserting typesetting codes can be laborious, often more like programming than word processing, so *TeXtPlus Professional* has been developed as a front-end to the two most popular TeXs, *AmigaTeX* and *PasTeX*. Instead of having to type in keywords and parameters, *TeXtPlus Professional* enables you to select almost every formatting option via friendly requesters. It even has a preview mode so that you can see the fruits of your labour on-screen before committing yourself to paper.

Many manuals for Amiga products have been produced with one TeX or another, the most famous probably being the ASDG manuals for *ADPro*, *CygnusEd* et al. From an end-product point of view, none of the Amiga WYSIWYG word processors can hold a candle to the speed and flexibility of typesetting a long document with TeX, but, like the *Protext* stored command language, TeX is certainly not for novices. TeX is one of those complex systems that depends on many files being in certain places at certain times, so, for a novice, setting it up correctly could be a never ending, nightmarish story.

To work comfortably with the shareware *PasTeX* and *TeXtPlus Professional* you will need a hard drive and at least 2Mb of memory, plus of course the determination to learn the system. Happily, *TeXtPlus Professional* does not have to be used with a TeX; it can be used on its own as a simple text-based word processor. There are enough text editing features to keep word bashers happy, and enough formatting features to enable you to set global margins, page lengths and so on, plus there are ways of embedding printer control codes into the text in order to change fonts, styles, colours and so on. If all you need to word process are letters and simple text documents, *TeXtPlus Professional* may very well be all you'll ever need. But if you want to get the absolute best out of



Personal Write has a weird user interface that takes some getting used to, but it's fast and may suit you if all you need to do is bash out words.



Document formatting options in Personal Write are spartan – one-line headers only, and all you can have in a footer is a page number.

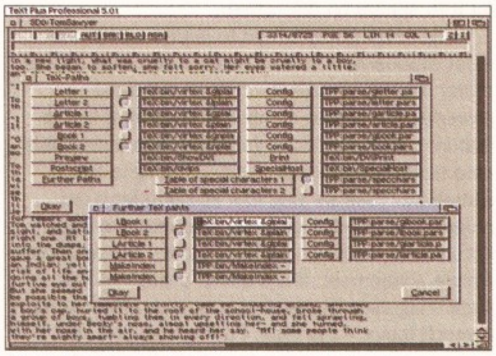
TeXtPlus Professional you'll have to get hold of *PasTeX* or *AmigaTeX*.

WORDWORTH 2 AGA

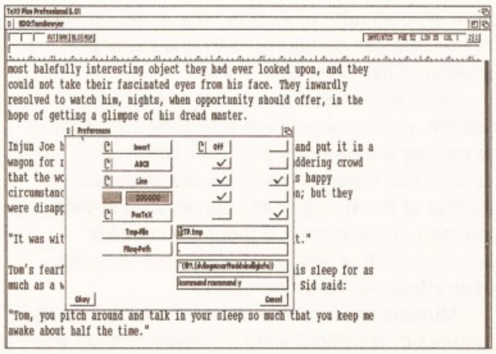
Despite being superseded by a later version, Digita are going to continue to manufacture and market *Wordworth2-AGA*, albeit at a much reduced price of £49.95. This new price makes *Pen Pal* its closest rival, which costs just £10 less, but of course the two cannot really be compared feature-wise. In our last word processor roundup *Wordworth2-AGA* beat *Pen Pal* hands down in every department, and nothing has changed except that the new low price means that *Wordworth2-AGA* is now more attractive than ever.

Wordworth2-AGA's greatest strength is that it contains good all-round support for both soft fonts and printer fonts. It is the only Amiga WYSIWYG word processor (bar *WW3* of course) that will enable you to swap printer fonts mid document, mid line, or mid word if you really must. Printer fonts are changed in the normal WYSIWYG way of highlighting the text and selecting the desired font from the font requester. Not all printer fonts are supported – DeskJet and LaserJet owners for example will be able to use only a handful of the fonts built into their printer – but Epson compatibles are fairly well catered for, as are PostScript printers (although you cannot download fonts). If you want greater flexibility – because printer fonts can be used only in a number of preset small sizes, dictated by the printer not the word processor – then you can use scalable Compugraphic fonts, but of course the price you pay for using scalable fonts will be much slower printouts.

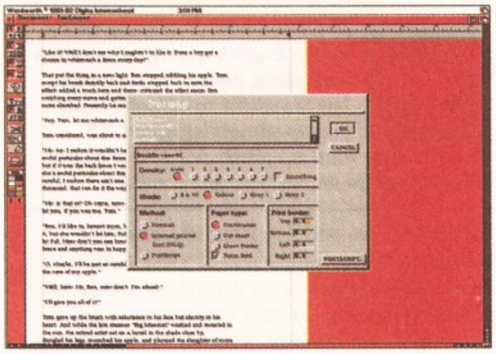
Wordworth2-AGA will import all IFF-ILBM graphics formats up to and including HAM-8. Alas, all imported graphics get converted to however many colours are supported by the current screen mode, and how they look on the screen is how they will print. This is no great problem when you are working with simple 2-16 colour clip art, but if you want to import and print a 256-colour or HAM-8 picture you will need to have *Wordworth2-AGA* running in 256-colour mode – this consumes lots of memory and slows down the program to an unusable operating speed, even on the fastest Amiga. I haven't the patience to use *Wordworth2-AGA* in 16 colours, let alone 256.



And this is why beginners should steer clear of TeXtPlus Professional. Unless you are Amiga-literate it could lead you right up the garden path.



The first time you select the Prefs option in TeXtPlus Professional you begin to suspect that this program is not for the faint hearted.



Wordworth2-AGA is able to print using of the fonts built into some printers as well as bitmapped and scalable outline fonts.

The other graphics weakness of *Wordworth2-AGA* is that it scales graphics on to the screen, which means they get printed at the very low screen resolution instead of the much higher resolutions printers use. There are no drawing tools in *Wordworth2-AGA*; all graphics must be imported, so lines, boxes and the like will have to be bitmaps created with a painting program.

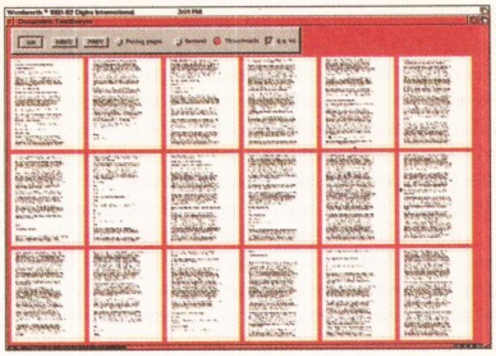
All these graphics weaknesses have been put right in *Wordworth 3*, so it is very difficult to get excited about this old version in the knowledge that there is something better available, even if it is twice the price or more.

If you are on a budget then your choice of WYSIWYG word processors is between *Wordworth2-AGA* and *Pen Pal*. *Pen Pal* is for out and out beginners, and its printed output leaves a lot to be desired. *Wordworth2-AGA* will suit the user who wants better text editing features and better quality output but cannot justify spending more than £50. I suppose it is not a nice thing to say, but the blunt truth is that *Wordworth2-AGA* is the poor man's *Wordworth 3*.

WORDWORTH 3

The *debugged* version of *Wordworth 3* – version 3.0a – duly arrived well in time for this roundup, and my first duty must be to report that most of the bugs that were in 3.0 have been squashed. The program now feels much more stable, although it still has a tendency to crash when you least expect it, and its greatest weakness remains – its speed, or rather its lack of it. *Wordworth 3* is incredibly slow when compared with any word processor other than *Wordworth2-AGA*. This, I suggest, is the price that has been paid for an exceedingly beautiful user interface and several trivial features that don't amount to a hill of beans.

What do I mean by *operating speed*? Several things. The speed at which characters appear on the screen as you type them is dreadfully slow once you've got a few pages of text tapped in – way, way behind your fingers unless you are a one-letter-a-second, two-finger typist. Marking a block of text that stretches across pages is painful because of the judderingly slow scrolling speed. Reformatting large blocks of text – changing a whole document to a new page size, new margins and new style and size of font for example – is something you don't want to do unless you've brought a flask and sandwiches with you.



Sometimes you wonder what possible use a feature can be, as with this on-screen thumbnails preview in Wordworth2-AGA.

Another weakness is the fact that *Wordworth 3* claims that it can be run from two floppy disk drives – but I wouldn't want to do it. The full package, including fonts, is on 11 floppy disks, so you can imagine the amount of disk swapping that is required. Just to load the program requires four disks and several in-for-a-second, out-for-a-second disk swaps.

Yet another weakness is that while structured (scalable) drawings can be imported, only two rather obscure formats are supported, GEM and CMG, whereas the formats most users will want to import will be EPS, Adobe Illustrator and DR2D (the formats *Art Expression* and *ProVector* use), and perhaps Gold Disk's *ProDraw* format. Digita will be selling some disks of scalable clip art, but if you want to create your own you will have to do so on another platform using a program that exports in GEM or CMG format.

But it is not all bad news. *Wordworth 3* has some great features, not the least of which is the drag-and-drop editing feature that has been added to version 3.0a. This means you can mark a block of text, then, with the pointer over the marked block, hold down the left mouse button and drag that block to another part of the document, which is just so damn convenient. No other Amiga word processor can do this, and if *Wordworth 3* were faster at text editing this feature alone could certainly persuade me to change brands.

Wordworth 3's versatile drawing tools and editable facing page displays are two other features that make it a potentially marvellous tool for formatting books and manuals. Its scalable font support is perfectly adequate for the needs of most users, although more experienced users will bemoan the lack of style sheets. Strictly speaking master pages are not supported, although headers and footers are easy enough to set-up, and there is a feature that will duplicate any group of objects on one page on to every other page in the document, which is a not-so-neat way of achieving the same effect as master pages.

Another potentially useful feature unique to *Wordworth 3* is tables. These are separate objects that can be moved around a document at will, just like a picture or other graphical element. In other word processors you have to use tabs to format tables, and these can be difficult to move or

BLITS & BOBS

It has been calculated that Shakespeare used 17,677 words in his writings, of which at least 10 per cent had never been used before. Imagine if every tenth word you wrote was original!

change once formatted, but in *Wordworth 3*, freely adjustable tables are easy as winking, although, like much else, they are dreadfully slow. In a similar vein, *Wordworth 3* features text objects which are separate elements from the main text, and which can be adjusted and positioned as you see fit. *Final Writer* has a similar feature, but *Wordworth 3's* text objects are much more flexible.

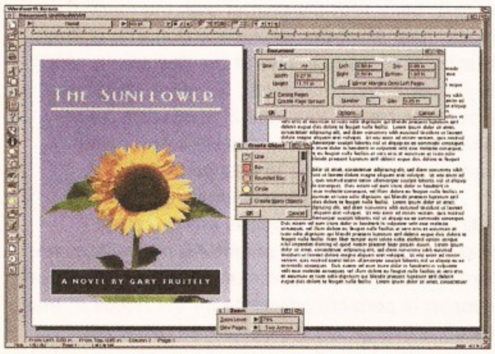
If you want the top WYSIWYG word processor you don't need me to tell you that the choice is between *Final Writer* and *Wordworth 3*. For me *Final Writer* has neater solutions to most of the more essential word processing features, and it is definitely a lot faster than *Wordworth 3*. But, now that it is more stable, and if you can live with the sluggish feel, *Wordworth 3's* bells and whistles and colourful trivia might be more attractive to you than *Final Writer's* more workmanlike approach.

HEAD TO HEAD

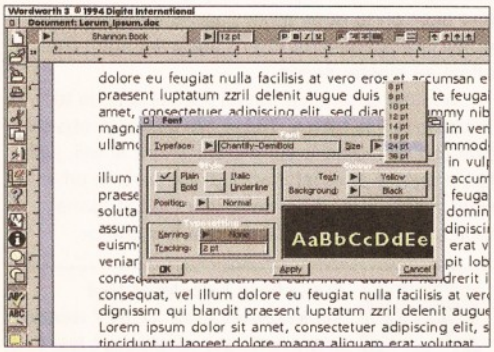
Now that we've seen what features make each word processor special, it's time to put them head to head and discover how well they deal with the essentials of creating documents

Having outlined the special features of each word processor in the first section, we now come to the battle royal, a direct comparison of common features, features that are an expected part of any word processor. Naturally there are hundreds of such features, and there would not be enough space in a whole issue to discuss and compare them all, so instead we will be concentrating on three important areas: document formatting; graphics handling; and printed output.

Text editing is another important area – how easy a word processor makes it for you to type in text, cut and paste it, move about the document and so on. But this really is the basic stuff of a word processor, and although some word processors are better at it and contain more features than others, all of the featured word



***Wordworth 3* is far and away the best looking Amiga word processor, but the price you pay for this prettiness is lack of speed.**



Many hobbyists may find *Wordworth's* font selection system less fussy than the style sheets in *Final Copy II* and *Final Writer* that are preferred by professionals.

> **BLITS & BOBS**
> ***Don't you wish that there was a single English word that means a very slight desire for something but too slight to actually make you do something about it? There is. The word is velleity and it is a noun. (Put the kettle on, luv, I've got a velleity.)***

processors have perfectly adequate text editing facilities, and any comparison of these features would by necessity have to discuss such mundane stuff as what keys you have to press to cut/copy/paste, how files are selected for loading, what keys you have to press to move from one word to another, and so on.

Protext is a case in point here. While it appears at first glance to adhere to the Commodore GUI guidelines, upon deeper investigation you find that Amiga-X, Amiga-C and Amiga-V do not cut, copy and paste in the way that the Style Guide says they are supposed to. Similarly, *Personal Write* uses Amiga-S to switch overstrike mode on, a keypress that in almost all other Amiga software will save the current project – which is Amiga-M in *Personal Write*. (And Amiga-A to load a document; don't ask me why). The more pedantic among you may find these kinds of inconsistencies unacceptable.

Other programs – like *Final Copy*, *Final Writer* and *Wordworth* for example – stick very close to the Amiga Style Guide for keypresses, menus and requesters, but *Wordworth* doesn't use the standard Amiga clipboard for cut/copy/paste, and *Final Copy* and *Final Writer* do not use the standard ASL file requester, and all of them do at least one thing that is specifically not recommended in the Style Guide. Some of you may find these non-standard features just as unacceptable as non-standard keypresses.

Me, I don't really give a monkey's. At the end of the day such things don't matter all that much because you can very quickly get used to working with any program, no matter how non-standard the interface may or may not be, so let's not waste any more space discussing religion, we've got bigger chips to fry.

FORMATTING

Presentation is nine tenths of the sale, so fast, intuitive and versatile document layout facilities are of paramount importance to any word processor.

There are several levels of document layout. A letter doesn't require much layout, just a special font and style for your name and address perhaps, right justified at the top of the page maybe, or perhaps along the top or bottom of the page in a header or footer. Business and project reports may need more formatting. Certain paragraphs indented and in a special style perhaps. Several styles of subheadings, indented to several tab settings. Footnotes or endnotes may be required, folios (page numbers) plus the option to include diagrams and tables. A table of contents might be required, a list of illustrations maybe, possibly an index. For manuals and books, fast and powerful layout options will be required so that the job can be finished as quickly and painlessly as possible.

Layout options are normally handled in three ways. First there are the global settings – the page size, margins and tab settings for the whole document, possibly the line spacing and default font as well. Changes made in a Document Settings requester normally affect the entire document, so these settings are always the first to be specified.

Next there is the ruler, which is normally paragraph based, so that if you adjust the margins, indentation and tabs while the text cursor is in one paragraph it affects only that paragraph. This feature is almost always extended so that ruler changes may affect all highlighted text, enabling you to format many paragraphs at once.

Last there are the *master* pages. These enable you to set up headers and footers, page numbers, and any other element of your document that needs to be present on every page – a ruled line below the header text and above the footer text for example.

On top of these features you will require easy and quick ways to change everything to do with fonts – typeface, size, style, colour, line spacing.

Because you can see changes made to documents on the screen, document layout is largely the domain of the WYSIWYG word processor, which means your choice is between *Final Writer*, the *Wordworths*, *Final Copy II* or *Pen Pal*. That's not to say that *Protext* cannot format documents because it certainly can – indeed it has some document layout features that the WYSIWYG boys don't, the most obvious of which is probably footnotes, but there is also the less obvious advantage of rulers than can be inserted into the text, and moved and altered. Changes made to a ruler in *Protext* affect all text below that ruler, up to the next ruler in the text, so reformatting sections of text can be easier than in a WYSIWYG word processor where the section of text would have to be highlighted first – an awkward task sometimes if the text stretches over many pages. But *Protext* is not WYSIWYG, so you have to see the formatting in your mind's eye rather than on the screen, and such skill only comes after much experience.

The disadvantage of formatting documents with a WYSIWYG processor is that everything happens much more slowly because the entire document, not just the bit of it you can see on the screen, has to be reformatted so that if you move to another part of the document you don't have to wait ages for it to appear on the screen.

You won't be surprised to learn that the two most expensive WYSIWYG word processors – *Final Writer* and *Wordworth 3* – contain the most powerful and largest number of document layout features. *Wordworth 3's* greatest weakness in this area is its lack of speed. Layout changes can sometimes take so long that you wonder if the program might have crashed, and with very big documents – say 50 pages or more – the wait for a simple adjustment, like a global change of font or page margins, can seem interminable. *Final Writer* is much faster – the tests I performed proved it to be up to ten times faster than both *Wordworths* – but, somewhat surprisingly, not as fast as *Final Copy II*. But then *Final Copy II* is a bit lightweight in the document layout department. However it does have style sheets, making is easy to set up styles of text that can be applied with one menu pick instead of half a dozen or more.

Final Writer has an even better style sheet system, you can even have a floating style palette (a window with buttons in it) from which user-defined text styles can be selected by mouse. Neither of the *Wordworths* support style sheets, but then many users find them too complex anyway, which is why (say Digita) they have not been implemented in *Wordworth*.

Multiple columns are among the most popular features of WYSIWYG word processors, and I was disappointed to learn that neither *Wordworth 3* nor *Final Writer* support parallel columns, only *snaking* newspaper style columns. Parallel columns are a

necessity for writing scripts – you type the name of the speaker in the left-hand column, press Return and the cursor moves into the column on the right, where you can type what has to be spoken adjacent to the name of who is speaking it. Then press Return at the end of that passage to move the cursor back into the left-hand column, but beneath the text you have just typed on the right, ready to type the name of the next speaker. Now, this type of document can be prepared very easily in *Protext* once you have worked out how to do it, but if you want soft fonts and graphics as well, then only *ProWrite* will serve your needs, a program which it has been impossible to buy in this country for more than a year.

Wordworth 3's independently movable text blocks and tables make this program a necessity for those who require these features. *Final Writer* has independently movable text blocks, but they are nowhere near as versatile as those in *Wordworth 3*.

The other three WYSIWYG Amiga word processors – *Wordworth 2, Final Copy II* and *Pen Pal* – are lightweight in comparison to *Wordworth 3* and *Final Writer*, especially *Pen Pal*, which is of course why beginners find it so easy to use. Of the text-based word processors only *Protext* has the power to format documents to a similar level to that which can be achieved with *Final Writer* and *Wordworth 3*. All things considered, *Protext* is probably the fastest and most powerful Amiga word processor, even at formatting documents, but because it is not WYSIWYG you have to put so much more thought into layout, and *Protext* is therefore considered by many to be much more difficult to use.

BLITS & BOBS ***The xenophobic British often berate the Americans for destroying the English language, but if it were not for the Americans we would still be queuing in our cars at gyratory circles instead of roundabouts. (But thank heavens we resisted stop-goes for traffic lights).***

GRAPHICS

There was a time when graphics support meant nothing more than the ability to import IFF-ILBM files. The first Amiga word processor to support graphics was the now dead and forgotten *KindWords*, closely followed by *Pen Pal*, which pushed back the boundaries of excellence by supporting HAM graphics, text runaround, the ability to print the original graphic from disk rather than the inferior version that was displayed on the screen, plus some tools for drawing lines, boxes and so on.

That is old hat now because in the same way that users demanded scalable font support, and got it, so they have been demanding scalable graphics support. And with the releases of *Final Writer* and *Wordworth 3*, they have got that too.

Digita have taken the strange decision to support two rather obscure scalable graphics formats for *Wordworth 3*, namely an Atari ST format called GEM, and a PC format called CGM. Neither format can be created by any existing Amiga program so you are limited to what clip art you can pick up in these formats. Digita has a collection of GEM and CGM clip art they can sell you.

Softwood have taken the much more sensible approach with *Final Writer* of supporting Encapsulated PostScript format – EPS for short (or sometimes EPSF) – which is the nearest thing we have to a standard scalable graphics file format that is portable across many platforms and programs. Rather than re-invent the wheel, Softwood have intelligently adopted Adrian Aylward's famous shareware post.library, and this seemingly innocuous step has had some rather pleasing consequences – memory permitting, *Final Writer* can import, display and print any EPS file. So what? Well, so you can create graphics in *ProDraw*, print then to disk as EPSF, and import them into *Final Writer*, where they can be scaled to suit and printed to any type printer, not just PostScript printers. Same with *Art Expression* files – both *Adobe Illustrator* export format and the normal *Art Expression* files created with Save and Save As. And, get this, same again with a page *printed* to disk as EPS from *ProPage* or *PageStream* – bitmaps, downloaded fonts and all. No other Amiga word processor or desktop publishing program can do this – indeed there are only a few Mac or PC programs that can do it, and they all cost five, six, seven times as much as *Final Writer*.

Along with scalable graphics import facilities, *Wordworth 3* and *Final Writer* contain tools for drawing scalable lines, boxes, ellipses and arrows. *Wordworth 3* is slightly stronger in this area, providing extra facilities for rounded boxes, and the style of the box frame – double line, dashed or shadow, for example, instead of just a solid line of a given thickness. *Wordworth 3* also has a Text Effects feature that is, frankly, a useless gimmick.

It is difficult to bring the other WYSIWYG word processors into this discussion on graphics

HOW THEY ALL COMPARE

The rating system here is different from our normal system, which we didn't think appropriate for a major comparison of so many packages. Instead, this system is sort of based on the way drivers score points in Grand Prix racing.

We looked at one category of features at a time, and the package that we rated best in that category scores 12 points, next best gets 10, third best scores 8, fourth best 6, fifth best 5, and so on down to 1 for the least impressive in that category. (So no two packages will have the same score in any one category). We feel strongly that the best word processor should be able to handle anything and everything a user requires of it, so if a word processor does not support a particular feature, it scores zero.

At the end the points are totalled, giving a single Overall score for each package.

This system enables you to remove categories that aren't important to you and re-total the scores to get a more personal overall rating. For instance, if Graphics and PostScript support don't matter to you, and you never read manuals anyway, then add up the scores without counting those three columns.

The scores for prices are based on the suggested retail prices. The most expensive scores 1, the cheapest 12. If you want to be scientific about it, you could flick through the adverts in this issue, compile a list of current *street* prices, and adjust the Prices ratings accordingly. If two prices are the same, give the higher mark to the one that has been discounted the most. The Overall *true value* rating you get this way may be all you need to make a final choice.

RATING POINTS

Overall – *Final Writer* came top in eight categories, *Protext* came top in three, *EdWord Pro* came top in one (price).

SoftFonts – The scores are based mainly on how scalable fonts are handled by the program, and the number of fonts provided free. *Protext* and *TeXtPlus Pro* just about scrape a rating because although they cannot use different fonts on-screen, both can be configured to download fonts and use them. Note that *Pen Pal* does not support scalable fonts, only bitmapped fonts, so it will always give jagged text output.

PrtFonts – The scores are based on the ability of a word processor to utilise the fonts that are built into a printer. The two point gap between *Protext* and *Wordworth* is misleading. *Protext* has by far the best printer font support, *Wordworth* is a poor second.

Print – The scores are based on overall speed and quality of printouts.

Extras – The little things a word processor contains that can add up to a lot. For example, features like *Protext's* powerful stored command language, *Final Writer's* sections and very configurable button strips, and *TeXtPlus Pro's* powerful TeX typesetting features.

Feel – These scores are based on not just how quick the program feels, but also on how solid it feels, the attractiveness of the user interface and how easy it is to use.

	Overall	Price	Editing	Layout	SoftFonts	PrtFonts	Gfx	Manual	Spel	Print	PostScrip	Extras	Feel
Final Writer	115	3	10	12	12	-	12	12	6	12	12	12	12
Protext	88	1	12	3	3	12	3	4	12	10	8	10	10
Wordworth3	86	2	6	10	10	10	10	10	10	8	-	6	4
Final Copy II	72	5	4	6	8	-	8	8	8	5	10	4	6
Wordworth2	71	5	5	8	6	8	6	6	5	6	6	5	5
TeXtPlus Pro	64	10	8	5	4	6	4	2	-	4	5	8	8
Pen Pal	39	6	3	4	5	-	5	5	4	1	-	3	3
Personal Write	33	8	2	2	-	5	2	3	-	3	4	2	2
EdWord Pro	23	12	1	1	-	4	-	1	-	2	-	1	1

facilities because *Wordworth 3* and *Final Writer* contain so many more features. They all support IFF-ILBM import, and all of them except *Wordworth2-AGA* will print the exact graphic so that you can word process in four colours but still include and print 256-colour pictures in your documents – *Wordworth2-AGA* converts all IFF-ILBM graphics to the number of colours of the current screen mode, and prints that, which means if you want 256-colour pictures in your documents you have to word process in 256 colours. Which is fine if you've got nothing else to do that day.

So if powerful graphics facilities are important to you, short of buying a desktop publishing program (which might actually be a better idea), the choice has to be between *Wordworth 3* and *Final Writer*. And I think it is quite a clear cut decision: if you've got a hard drive, buy *Final Writer*, if not, you'll either have to buy a hard drive (and then *Final Writer*) or put up with *Wordworth 3's* lack of speed and sporadic crashes.

PRINTED OUTPUT

The end result most people want from a word processor is very quick, high quality printouts. This is not always possible, and whether you get it or not largely depends on what printer you own. The only way on the Amiga to have WYSIWYG, and the flexibility of scalable *soft* fonts, and very fast printouts, is to buy a PostScript printer. They don't cost as much as they used to – under £1,000 now – but that's still a lot of money, way above most hobbyists' means. So if you cannot stretch to the cost of PostScript you must resign yourself to the fact that you cannot have WYSIWYG and soft fonts and fast printouts. You can have fast printouts, but not with WYSIWYG and soft fonts.

You must ask yourself which is more important: fast printouts, or the ability to use thousands of fonts in any size you like. Without PostScript, you cannot have both. I should quickly mention that the only word processor with good enough PostScript printer support is *Final Writer*.

If it is printout speed you want, with as much font flexibility as possible, then *Protext* reigns supreme. No other Amiga word processor can take full advantage of the fonts built into your printer. True, you cannot have a WYSIWYG display, but once you have accepted this fact and knuckled down to getting used to living without it, you can begin to exploit your printer. If your printer has (for example) 25 fonts built into it, *Protext* will be able to use them all, and you will be able to change fonts and/or styles and/or colours mid paragraph, mid line, mid word, mid whatever. If your printer has different sizes of fonts, or limited scalable fonts like the Epson Stylus printers, *Protext* can handle that too. Again, there is no WYSIWYG, but because *Protext* knows the widths and heights of all the characters, the position of any character on the page is reported accurately (in inches or centimetres) in the *Protext* status line. So while what's on the screen can sometimes look like a mess, what gets printed is always what you expect to get printed, and because *Protext* is using built-in printer fonts, pages fly out of the printer as fast as the printer can print them.

But most people want WYSIWYG and the ability to load and print thousands of Compugraphic (CG) or PostScript (PS) Type 1 scalable fonts. Fine. *Wordworth 3*, *Final Writer* and *Final Copy II* support both GG and PS fonts – *Wordworth2-AGA* supports just CG – and they will all enable you to mix and match fonts, styles, colours and sizes anywhere on the page you like. But as these fonts are not resident in the printer, pages created in these word processors must be printed as graphics, and that takes much, much longer than printing with printer fonts. It is not unusual for a single page of text using a handful of fonts in a handful of sizes to take as long as 30 minutes to print on a 68000 based Amiga. The only thing that can speed up the printing of graphics is a faster processor – a 68020, 68030 or 68040 in other words. There is no such thing as a faster printer driver, only a program which is more efficient at printing graphics. *Final Writer* and *Final Copy II* are a bit faster at printing than the two *Wordworths*. Quality-wise there is not much between these four for printing text, but *Final Writer* and *Final Copy II* print better IFF-ILBM graphics than both the *Wordworths*, especially in colour, although the difference between the *Final Writer*, *Final Copy II* and *Wordworth 3* is a magnifying glass job.

I haven't mentioned *TeXtPlus Professional* for a long time so I should point out that it too will take a while to print pages when used in conjunction with a TeX because everything is printed as graphics. The quality, like *Final Writer*, *Final Copy II* and *Wordworth 3*, is superb, but you will have to be prepared to wait for it. Without a TeX typesetting system in tow, *TeXtPlus Professional* can take some advantage of the fonts in your printer, but it has not really been written with this use in mind so it pales in comparison to *Protext*.

On other platforms better ways of printing soft fonts and having WYSIWYG displays of printer fonts have been invented, but the Amiga's printing system has hardly changed since the first Amiga rolled off the production line. A complete re-think is required – Amiga printer drivers need to have screen fonts built into them and need to be able to image scalable soft fonts much more quickly – but this is something that only the developers of the Amiga can do in a future revision of Workbench. In the meantime we will either have to suffer or vote with our pockets.

IN CONCLUSION

There can be no doubt that *Final Writer* is the current king of the Amiga word processors. In text editing features it is beaten only by *Protext*, which has a 10 year pedigree don't forget, and apart from its lack of printer font support (which is a deliberate omission) *Final Writer's* only obvious weakness lies in its spelling checker, which, while trying to be helpful, often ends up being inane.

For instance, when *Final Writer* comes across the word "expandable" it throws it out with the message "Word is invalid, but is composed of a valid prefix and/or suffix, plus a valid word (the infix)." Come again? To save you losing sleep over it, what this actually means is that *Final Writer* is happy with "ex" as a prefix, happy with "able" as a suffix, happy with "panda" as an infix, but not at all happy with "expandable" as a word. Which is strange because that's the preferred spelling in both the OED and the Collins Dictionary of the English Language. *Wordworth* throws out "expandable" too, preferring, like *Final Writer* and *Final Copy II*, the "ible" suffix, whereas *Protext* is happy with "expandable" but knows no synonyms for it, only for "expandible". Anyway, the point is that I'm not sure it is necessary or wise for *Final Writer* to defend its position when it suggests that a word is misspelled.

But you can see that I am picking at nits, which is a sure sign that I am having trouble finding fault with a product. If ever there was a good reason to buy a hard drive for your Amiga, *Final Writer* is that reason. Amiga Word Processing has come of age with *Final Writer*, and while it still cannot be compared with the hallowed *Microsoft Word*, it is clear that while Digita appear to have temporarily lost their edge with *Wordworth 3*, Softwood have their sights set firmly on providing us with power and speed. AS

The prices quoted here are suggested retail prices. Some of the packages are advertised at cheaper prices than these, so do shop around.

Personal Write – £29.95
Meridian Software Distribution, East House, East Road Ind Est, East Road, London SW19 1AR.
☎ 081 543 3500

Pen Pal – £39.95
Final Copy II – £49.95
Final Writer – £74.95
Softwood Products Europe, New Street, Alfreton, Derbys DE55 7BP.
☎ 0773 521606

Protext – £152.75
Arnor Ltd, 611 Lincoln Road, Peterborough PE1 3HA.
☎ 0733 68909

Wordworth 2 – £49.95
Wordworth 3 – £149.95
Digita International Ltd, Black Horse House, Exmouth EX8 1JL.
☎ 0395 270273

EdWord Professional – £10
Martin Reddy, Lossiemouth House, 33 Clifton Road, Lossiemouth, Moray IV31 6DP.
(Send sae and blank disk for a demo version).

TeXtPlus Professional – £20
Martin Steppler, Roermonder Str. 112a/69, D-52072 Aachen, Germany.
(Demo version on Fish Disk 973).

FUTURE PLANS FOR THE AMIGA

We asked the developers of the major Amiga word processors what their reaction was to the latest conflagrations within Commodore and how it would affect the future development of their products.

Mark Tilley, Arnor Ltd (*Protext*): "We will continue to maintain and develop Amiga software for as long as there is a market."

Jerry Rihll, Digita International Ltd (*Wordworth*): "It depends on the reaction of the Amiga community, and we will be watching carefully what Commodore UK does."

Giles Harwood, Softwood Products Europe (*Final Writer, Final Copy, Pen Pal*): "We are still developing as eagerly as ever for the Amiga."

As you can imagine, opinions were being reserved until the worst dust has settled, but the good news is that no one has any plans to desert the Amiga, at least not as long as there still are Amiga users out there willing to part with their money.

AMIGA WORD PROCESSORS	Wordworth 3.0a	Wordworth 2-AGA	Final Writer Rel 2	Final Copy ii Rel 2
DOCUMENT EDITING				
Multiple documents	Yes	Yes	Yes	Yes
Freely cut/copy/paste between documents	Yes	Text only	Yes	Text only
Bookmarks (for quick goto)	Yes	Yes	Yes	Yes
Timed autosave	Yes	Yes	Yes	No
Macros (record and replay multiple actions)	No	No	Via ARexx scripts only	Via ARexx scripts only
Glossary (auto insert common phrase)	Yes	Yes	Yes	No
Auto replace abbreviations as you type	Yes	No	No	No
WYSIWYG TYPE FACE SUPPORT				
On-screen printer fonts	Yes	Yes	No	No
On-screen Amiga (bitmapped)fonts	Yes	Yes	No	No
On-screen outline (scalable) fonts	CG,Type 1, TrueType	CG	CG, Type 1, NimbusQ	CG, Type 1, NimbusQ
Number of outline fonts supplied	56	17	125	20
DOCUMENT LAYOUT				
Style sheets (aka style tags)	No	No	Yes	Yes
Master pages	No	No	Yes	Yes
Page magnify/reduce	25-400% in 1% steps	No	8 preset levels from 25-400%	8 preset levels from 25-400%
Facing pages (auto odd and even page margins)	Yes	Yes	Yes	Yes
Editable facing pages on screen	Yes	No	No	No
Automatic hyphenation	Yes	Yes	Yes	Yes
Multiple columns	Yes	Yes	Yes	Yes
Headers/Footers	Yes	Yes	Yes	Yes
Endnotes/Footnotes	Endnotes only	Endnotes only	Endnotes only	No
Outline (condense docs to view headings)	No	No	Yes	No
Independently movable text blocks	Yes	No	Yes	No
Independently movable tables	Yes	No	No	No
Undo/Redo	Undelete only	Undelete only	Yes	No
GRAPHICS				
Import ILBM graphics	2-256 cols,HAM/8	2-256 cols,HAM/8	2-256 cols,HAM/8, IFF24	2-256 cols,HAM/8, IFF24
Import vector (scalable) graphics	GEM, CGM	No	EPS	No
On-screen PostScript (EPS) graphics	No	No	Yes	No
Support AGA chip set	Yes	Yes	Yes	Yes
Resize/Crop	Resize only	Resize only	Yes	Yes
Vertical/Contour text flow	Yes	Yes	Yes	Yes
Hide graphics for quicker screen refresh	Yes	No	Yes	No
Snap to grid	Directional restraint only	No	Yes	Yes
Position by coordinates	Yes	No	Yes	Yes
Scale to user defined measurements	Yes	No	Yes	Yes
Vector drawing tools	Yes	No	Yes	Yes
Arrange depth of graphics	Yes	No	Yes	Yes
PRINTING				
Embedded printer control codes	No	No	No	No
Use multiple printer fonts per document	Yes	Yes	No	No
Select printer font number for document	Yes (WYSIWYG)	Yes (WYSIWYG)	No	No
Mix graphics and printer font	No	No	No	No
Landscape (90 degress rotated) printing	No	No	Yes	No
Page preview	Yes	Yes	Yes	Yes
Scale bitmapped graphics to printer resolution	Yes	No	Yes	Yes
Print graphics in maximum number of colours	Yes	No	Yes	Yes
Postscript support	No	Mono only	Mono,Colour(not seps)	Mono,Colour(not seps)
Downloadable Postscript font support	No	No	Yes	Yes
Postscript halftoning control/crop marks	No	No	Yes	No
SPELLING				
British Dictionary	Yes - 116,000 words	Yes - 116,000 words	Yes - 110,370 words	Yes - 110,370 words
British Thesaurus	Yes - 826,000 cross refs	Yes - 826,000 cross refs	Yes - 826,000 cross refs	Yes - 826,000 cross refs
User configurable exceptions dictionary	No	No	No	No
Correct all misspellings of same word in one go	Yes	No	No	No
GENERAL				
Conforms to Commodore GUI guidelines	Near enough	No	Near enough	Near enough
Uses standard Amiga clipboard	No	No	Yes	No
Button strips	One (user contigurable)	One (user contigurable)	Eight (user contigurable)	One (user contigurable)
Configurable user menu	No	No	Yes	No
Mail merge	Yes	Yes	Yes	Yes
Auto create Index	Yes	Yes	Yes	No
Auto create TOC (table fo contents)	Yes	Yes	Yes	No
ARexx support	No	No	Yes	Yes
On-line help	Yes - AmigaGuide	Yes - custom	No	No
UK technical support available	Yes	Yes	Yes	Yes
Kickstart required	Kickstart 2 or better	Kickstart 1.3 or better	Kickstart 2 or better	Kickstart 1.3 or better
Workbench required	Workbench 2.04 or better	Workbench 1.3 or better	Workbench 2.04 or better	Workbench1.3.3 or better
Memory requirements	2Mb minimum	1.5Mb minimum	1.5Mb minimum	1 Mb minimum
Disk drive requirements	Two floppies minimum	Two floppies minimum	Hard drive requires	Two floppies minimum
SPEED TESTS (A4000/040)				
Import 70,000 word ASCII document	37 secs	70 secs	13 secs	13 secs
Reformat 70,000 word doc to new margins	89 secs	85 secs	29 secs	7 secs
Find and replace 750 words in 70,000	290 secs	195 secs	52 secs	30 secs
Import HAM graphic (time until it's on-screen)	21 secs (HAM8)	30 secs (HAM8)	6 secs (HAM8)	6 secs (HAM8)

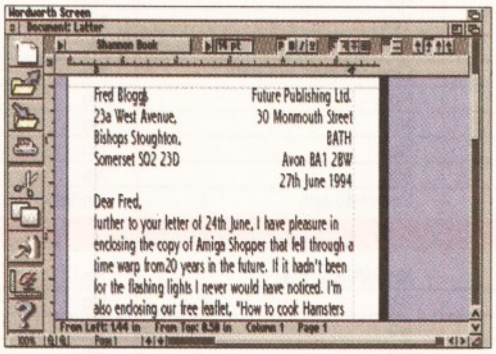
Pen Pal 1.5	Protext 6	Personal Write 4	EdWord Pro 4.1	TextPlus Pro 5.01
Yes	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes
No	Yes	Yes	Yes	Yes
No	Yes	No	Yes	Yes
No	Yes	No	Yes	Yes
No	Yes	No	Via ARexx scripts only	Yes (via macros)
No	Yes- but not automatic	No	No	No
No	No	No	No	No
Yes	No	No	No	No
No	No	No	No	No
None	None	None	None	None
No	Yes	No	No	Yes (requires TeX)
No	No	No	No	No
Show full page only (reduce)	No	No	No	No
Yes	Yes	No	No	Yes (requires TeX)
No	No	No	No	No
No	Yes	Yes	No	Yes (requires TeX)
No	No	No	No	No
Yes	Yes	One or other, not both	No	Yes (requires TeX)
No	Yes	No	No	Yes (requires TeX)
No	No	No	No	No
No	No	No	No	Yes (requires TeX)
No	No	No	No	Yes (requires TeX)
Yes	Undelete only	Undelete only	Undelete only	Undelete only
2-64 (EHB) cols, HAM	Not WYSIWYG	Not WYSIWYG	No	Yes(req.Tex,not WYSIWYG
No	No	No	No	No
No	No	No	No	No
No	No	No	No	No
Yes	Resize only (not WYSIWYG)	No	No	Resize only (requires TeX)
Yes	No	No	No	No
Yes	No	No	No	No
Directional restraint only	No	No	No	No
No	No	No	No	No
Yes(pixels only)	Not WYSIWYG	No	No	Yes (requires TeX)
Yes	No	No	No	No
Yes	No	No	No	No
No	Yes	Yes	No	Yes
No	Yes	Yes	No	Yes
No	Yes	Yes	Only via a printer init string	Yes
Yes	Not WYSIWYG	Not WYSIWYG	No	No
No	Only if printer supports it	No	No	Yes (requires TeX)
Yes	Text only	Yes	No	Yes (requires TeX)
Yes	Yes	No	No	Yes
Yes	No	No	No	Yes
No	Mono only	Mono only	No	Yes (requires TeX)
No	No	No	No	Yes (requires TeX)
No	No	No	No	Yes (requires TeX)
American - 110,000words	Yes - 110,000 words	No	No	No
No	Yes - 826,000 cross refs	No	No	No
No	Yes	No	No	No
No	Yes	No	No	No
No	Near enough	No	No	Near enough
No	No	No	Yes	Yes
One (user configurable)	None	One (user configurable)	None	One (user configurable)
No	No	No	No	Yes
Yes	Yes	Yes	No	Yes (requires TeX)
No	Yes	No	No	Yes (requires TeX)
No	Yes	No	No	Yes (requires TeX)
No	Yes	No	Yes	Yes
Yes - custom	Yes - custom	No	Yes - AmigaGuide	Yes - AmigaGuide
Yes	Yes	No	No	No
Kickstart 1.2 or better	Kickstart 2 or better	Kickstart 1.2 or better	Kickstart 1.2 or better	Kickstart 2 or better
Workbench 1.2 or better	Workbench 2.04 or better	Workbench 1.2 or better	Workbench 1.3 or better	Workbench 2.04 or better
1 Mb minimum	1 Mb minimum	512k minimum	512k minimum	2Mb minimum
One floppy minimum	One floppy minimum	One floppy minimum	One floppy minimum	Hard drive required
Would not load it	3 secs	4 secs	2 secs	4 secs
So I couldn't reformat if...	21 secs	Under 1 sec	Not possible	Not something you'd do
...or find and replace	3 secs	5 secs	33 secs	7 secs
20 secs (HAM)	N/A	N/A	N/A	N/A

Hints & Tips for using your word processor

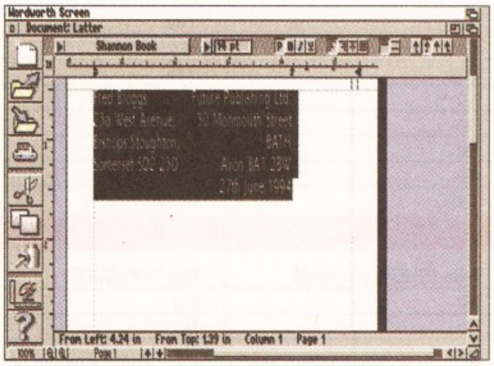
Bullets and drop caps; form letters and flush tabs; ornaments and watermarks – Mark Smiddy is here to offer some vital guidance to utterly confused, budding word processor operators.

Since the early days of desktop computers, word processing has been one of the most popular uses. As with many modern platforms the Amiga has a bewildering range of word processors to choose from, but after you've made that decision, what next? All word processors are essentially the same thing; they allow you to enter and correct text.

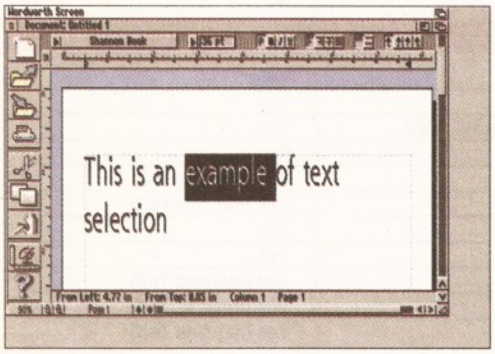
A word processor worthy of the name will, of course, perform many other functions – such as basic layout and spell checking. More advanced word processors, like *Wordworth* and *Final Writer* come close (and can equal in output quality) to that of real desktop publishing systems. The dividing line between what makes a word processor into a document processor, or a document processor into a desktop publishing system is thin and difficult to define. For the purposes of simplicity, this feature will cover just those engines specifically described as word processors. Advice is intended to be general and is not intended as a replacement for the manual.



A completed form letter constructed in Wordworth 3.0a. You should note that the addressee's name and address can be changed very easily by selecting and over-typing it.



Working on the address heading for the form letter. Tabs have been added, but not set to flush the sender's address against the right margin. The selected text is being adjusted as a block.



Selecting a single word in Wordworth 3.0a is a matter of positioning the I-bar and double-clicking. Wait a second or so before attempting to drag and drop, or you will select the entire screen line.

FORM LETTERS

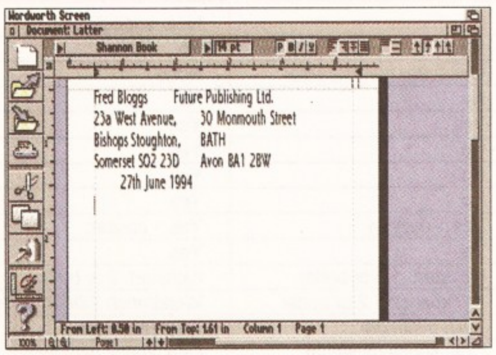
In spite of suggestions made by purveyors of high-power word processors, a very professional job can be made with nothing more fancy than a simple text editor and 9-pin impact dot-matrix printer. Knowing my fondness for AmigaDOS, you might expect me to suggest ED for this purpose. While that is possible (and with Workbench 2, it's almost conceivable) ED should be left doing what it's good at: editing AmigaDOS programs.

The first thing you need to know is what you want the document to look like; is it to be a business letterhead or a simple note to Granny Smith? Is it a formal or informal letter? Does it need to follow some pre-defined format? Perhaps it needs to fit on headed note paper. Don't forget many small print shops and specialist stationers can supply reams of personalised A5 letterheads at very low-cost. This, in particular, is worth investigating because not only does it add to the clarity and professionalism, it has a certain "snob" value which cannot be ignored.

PRINTER MARGINS

If you are starting with a clean sheet (tractor or form fed) everything has to be entered. On the other hand, if you are working on pre-printed letterheads, you will have to allow some space for the existing design. The first problem you will have to work around is the finite print area your printer is capable of. It's no good attempting to print in the top half-inch or bottom inch of the sheet-fed paper on most printers; it simply isn't possible.

The actual dimensions are printer specific, but you should imagine an invisible border around the outside of each page; the printer's manual should give some specifics. If your printer's manual is vague (or lost), a simple test page will give you some idea. Here's how to do it for sheet-fed paper,



This is your screen when the dummy addressee and return addresses have been entered. Note that the date has a single tab before it.

JARGON BUSTING

Double-click – to press the left mouse button twice in quick succession.

Downloadable Font – usually only applies to Postscript printers. These fonts are extra to those already supplied with the engine and are sent down the printer cable before the document is printed.

Drag – to move the mouse while holding the left mouse button.

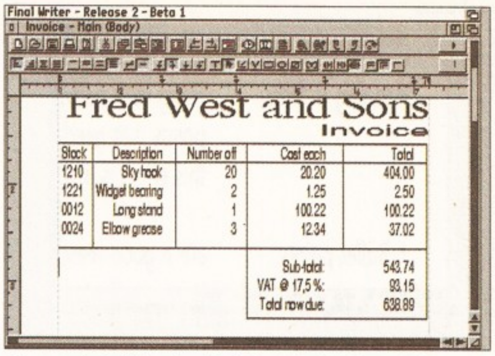
Graphic Font – type style obtained by drawing the characters at the printer's graphics resolution and printing a graphics dump. It's a bit like printing from a paint package, only much better.

I-Bar – a special pointer shaped like the letter I used by word processors to indicate text mode. The insertion point can be moved to any point in the text (inside words for instance) by positioning the I-bar and clicking once.

Insertion point – point at which text entry starts. This is usually marked with a flashing bar (cursor), but some systems allow this to be configured.

Overwrite – in this mode, text entered at the current insertion point replaces that already entered. Overwrite mode is rarely very useful and should not be confused with the overwrite mode of a manual/electric typewriter.

Printer Font – native typeface resident in the printer. Many printers have fonts available, usually selected from software.



A completed invoice built in Final Writer. Five transparent boxes have been positioned over the tabulated text to highlight the individual sections. Notice how this entire document gets by with just four, right-flushed tab stops.

the most troublesome variety:

Locate the Printer margins setup configuration. In *Final Writer* this can be found under "Layout...Page" and in *Wordworth 3* it's under "Project...Print Setup". Now select the page size and paper type you will be using, and set all border values to zero. Now enter a page full of letters – capital "H" is a good one. (Enter a line and use Copy and Paste to speed the operation). Position the paper as you would normally and print one copy; if you're using a printer font/graphic print capable engine like *Wordworth*, it's important to use the mode you will actually use – the graphics print area may differ slightly from the text print area. Use a ruler to measure the effective print borders for the top, bottom, left and right margins. You don't have to be pin-point accurate, but ensure that the measurement starts from the top (or bottom) of the page and ends at the first fully printed line. Enter those figures in your print/document setup and save them.

If you intend using windowed envelopes, you can use this test page to work out the position of required tab stops (discussed below) for the address panel.

TABULATION

With form letters, tabulation is all important. It's amazing how many people still attempt to use spaces to flush text against the right-hand margin. By convention, the return address of any letter should be positioned at the top right of the page and the mail receiver's at the top left. Use your word processor to enter the following text, pressing the tab key where indicated by <TAB>:

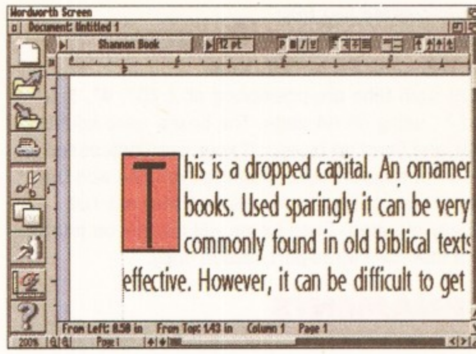
Fred Bloggs<TAB>Future Publishing Ltd.
23a West Avenue<TAB>30 Monmouth Street
Bishops Stoughton<TAB>BATH
Somerset SO2 2ED<TAB>Avon BA1 2BW
<TAB>27th June 1994

Select the entire block of text as shown and insert a flush-right tab in the ruler. (This example is shown using *Wordworth 3*, but the technique is similar in most word processors). Drag the tab over to the extreme right-hand border and the entire block of text will follow neatly aligned as shown. This operation affects all the tabs in the selection and ensures that all follow the same move

Now de-select the text by clicking away from it and enter a blank line below. Now enter the following: <TAB>Amiga Shopper Time Warp and place a centred tab above the text. Note how the ruler affects only the current paragraph; that is everything up to the carriage return or the entire selection.

If you are using a windowed envelope you can add extra tabs at the start of each line for the addressee like this:

<TAB>Fred Bloggs<TAB>Future Publishing Ltd.



A simple drop-cap placed in Wordworth. This example used drawing tools and a text frame in Wordworth3.0a.

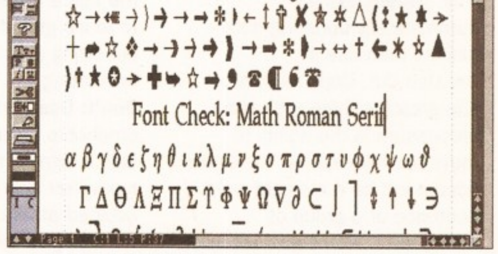
<TAB>23a West Avenue<TAB>30 Monmouth Street
<TAB>Bishops Stoughton<TAB>BATH
<TAB>Somerset SO2 2ED<TAB>Avon BA1 2BW
<TAB><TAB>27th June 1994

Note that in the last line, you'll need two tabs to start the line off – even though there is no text between them. This ensures that the program positions the text at the correct tab stop. Select the address block once more and insert a flush-left tab at near the left margin. This should sort out the apparent confusion.

You may also have to lower the address by a line or two to get it to fit correctly inside the window; the fastest way to do this is to lower the printer's top margin, typically around 1.5 inches. A better option (if your word processor supports it) is to set the space above (space before) in the Paragraph options. Keep in mind the printer may already be imposing a full inch at the top of the page, so you'll only need an extra inch of space. Click inside the top address line and insert the space. This technique is highly efficient because it is not sensitive to font changes, etc. (Note, *Final Writer* does not support space before/after paragraph). When you have constructed the standard letter in this way and got it to your satisfaction, it should be saved in a special directory – "Templates" is a good name. This makes it easy to find at a later date.

TABLES

Tables are standard with *Wordworth 3*, but there's nothing to say that a good table cannot be constructed with tabs and simple drawing tools. The example shown here in *Final Writer* uses just five boxes to give the impression of many ruled lines. More importantly, only four tabs are required for the whole document. When figures are being used, it is usual to assume that decimal tabs can get the effect, but this is not always the case; this document only uses right-flushed tabs! The main



Font sheets such as this one in Wordworth 2 make light work of locating those awkward symbols and ornaments.

SELECTING TEXT

Text selection in the majority of WYSIWG word processors, including the *Wordworth* series, *Final Copy* and *Final Writer* use a dragging system. Selection starts from the current insertion point and moves with the "I-bar". Contrary to popular belief, you don't have to follow the text word-by-word; an entire paragraph can be selected by dragging up or down. The *Wordworth* series are very slow at performing this operation; leisurely mouse actions are in order here until you get used to the speed.

Slightly improved selection facilities are available in some systems. For example, *Wordworth* selects a single word by double clicking the I-bar over it and the entire screen line (not the sentence) by triple clicking. *Final Writer* selects a single word with a double click, but once a selection has been made it can be extended by Shift-Clicking. That is, selecting some text, moving (say) to the end of the document and holding either Shift key while clicking. Live scrolling is supported by both these systems, so you can extend the selection by dragging off the top or bottom of the screen. However, if your word processor has a "Select All" function (on the Edit menu) this is a lot faster than dragging.

A number of operations can be performed on selected text (depending on the application), although there will be at least Cut, Copy and Paste. Both *Final Writer* and *Wordworth* support automatic section replacement. That is, you select a word or phrase to be replaced and enter the new one directly. There is no need to use Cut; you can even Paste into a selection and replace it. The Delete key serves the same purpose, but the text is *not* copied to the clipboard. In addition, *Final Writer* supports Shift-Cursor selections. Under this scheme you hold Shift while moving the cursor, and the text is selected. Words or paragraphs, and so on, can simply be selected using the movement shortcuts in combination with this.

Finally, *Wordworth 3* has an optional operation called "Drag and Drop" editing. This technique can be difficult to master, but is faster than Cut and Paste. In essence, you simply make a selection, pick it up with the mouse and move it to a new point in the document. Drag and Drop works best when a small amount of text (a word or sentence) is being moved around inside the current screen. The key to getting it right, is watching where the spaces are. For instance, if you double-click a word, the space after the word is included in the selection. When this text is "dropped" it has to be positioned immediately before the word it precedes, after the existing space. It definitely takes some practice to get it absolutely right.

text is entered like this:
Stock<TAB>Description<TAB>Number off<TAB>Cost Each<TAB>Total
Right-flush tabs are positioned at 2.75", 4", 5.5" and 7" using an A4 page. The boxes were added later and lined up by eye. If your word processor does not support such graphics, you can add the lines if necessary, but in practice they are not usually required. Such forms will usually be printed on a standard three-part carbon copy.

ORNAMENTS

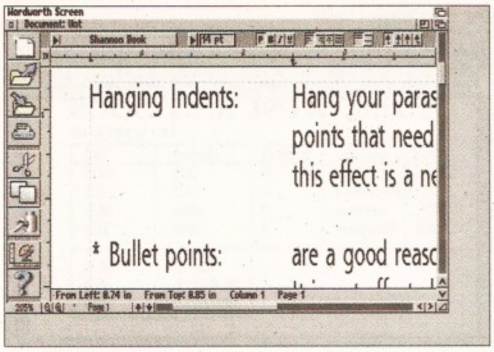
A word processed document is not a Christmas tree. That may sound like an attempt at humour, but you wouldn't think so to look at some attempts. The key to good word processing is like advertising, get the message across clearly, succinctly and quickly. No matter how good the text is, you don't want to confuse the reader with lots of changing fonts, style and a messy layout. However, good use of ornaments and indentation can make a complex document a lot easier to read. The most basic form of ornament is the bullet point. This is used to list a series of points where paragraph numbering may be difficult or is inappropriate. *Final Writer* has a bullet style built in, but many other word processors do not. If your word processor is using a printer font, you may be restricted to using the asterisk (*) to mark each point; otherwise you may find a suitable symbol tucked away with a supplied font. Zapf Dingbats are included with many packages for just this purpose. A sample font sheet is useful to pick the one you need quickly.

Producing the sheet is a simple matter of entering all the letters on the keyboard with the combinations of upper and lower case, plus the ALT and ALT-Shift combinations. Make sure you have at least one space between each character. Once done, the whole block is selected and changed to one of the decorative/ornament fonts. If you have more than one decorative font, it may be useful to perform the operation for each one. *Wordworth 2*, for instance, is supplied with three sets of Zapf Dingbats.

When you are working with a document that requires bullets or ornaments, you only have to load the ornament document and use Copy and Paste to copy any symbol into the current file. Adding spaces between each symbol enables you to select them simply as a "word" (using a double-click, in *Wordworth*) and paste them in easily.

INDENTS

Indents are useful when you have a point to make – even if you have highlighted the point with a bullet or other ornament. Perhaps you have a list of named paragraphs; the question panel on page 97 is a truly classic example. Hanging indents allow the descriptive text to stand off the item name without confusing the issue and they're surprisingly



Hanging indents can be produced in most word processors. Use the right indents and the size of font used will not influence the effect too much.

easy to create. *Final Writer* already has the capability built-in (which is just as well, because the system is not quite conventional).
In most word processors with a graphic ruler you'll see the left margin is defined by a split arrow. You can move both together by dragging the bottom half; but the upper part is free. These markers define the absolute left and first line indents for the current paragraph or selection.

To produce a basic hanging indent, these markers have to be moved so the upper half (first line) is at the left border, and the bottom half (left indent) is part way into the document. In conventional word processors you can enter the measurements directly (*Wordworth* has this feature too). The left indent may be something like one inch and the first line is always of the same magnitude, but negated – minus one inch in this case. A single left flush tab stop should be added at the position of the left indent – one inch again. With this in position, you can enter introductory text, followed by a tab, followed by the character. The word processor does the rest for you.

It is important to note that in *Final Copy/Writer*, negative indents are not supported in the same way. For these systems the left indent should be set to the indent amount and the first line indent to zero. The single tab stop is set at the position of the left indent.

DROPPED CAPITALS

Dropped Capitals, or "drop caps" as they are more usually called, can be useful to introduce a chapter or section: but they must be used sparingly – not least because they are a beast to place. There are several approaches to inserting a drop cap, and the simplest is to use an in-line graphic. The graphic can be created in *DPaint* or other art package, imported using the usual method and saved as a brush – this keeps the image size down. The standoff should be set about 0.1 inches with vertical flow. Some experimentation may be needed to get the size right – by convention three or four lines are usually used as shown at the beginning of this article. If you're particularly artistic, you could even dress the drop cap in colour as appeared in the old Christian bibles. This method can be fiddly because you will have to create a brush for every letter of the alphabet. Each letter should be about 30 points high for a typical three line drop.

The graphics approach is simple, but it does not get the best resolution since the letter is an image (as opposed to an outline). A trickier solution is to use a text frame – available in *Final Writer* and *Wordworth 3* – and use it in exactly the same way as you would use an image. The added advantage of this technique is that it is much faster to change the letter at some later date!

WORD PROCESSING DOs AND DON'Ts

Do: Read the manual supplied with your system. This might sound obvious, but how do you expect a technical support person to help if you can't help yourself!
Do: Use tabs. Learn how the tab system works in your word processor and use it. It's a lot simpler to move a tab than it is to delete a lot of extra white space.
Do: Use decimal tabs if you're formatting a table of figures. This might mean having to add leading or trailing zeros, but it will look better in the end.
Do: Use special emphasis sparingly. There is little point trying to emphasise a word if it gets lost among a lot of others in the same sentence, paragraph or page.
Do: Construct a series of "form letters" or "templates". These are blank documents with some information such as addresses filled in. Similarly, if your system has an automatically updating date facility, then use it!
Do: Use Cut, Copy and Paste. The greatest thing with word processors is the ability to move text "en-masse" around a document; be it a single word, sentence or a group of paragraphs. Nothing is set in stone until you hit the Print button.
Do: Learn the keyboard shortcuts. I know these can be a chew, but a least learn basic ones such as skip word or paragraphs, and the editing functions.
Do: Use italics and bold for emphasis. The initial appearance of your documents gives the reader an instant feel for what it is you are trying to put across. You should pick one style for emphasis (bold), and another for picking out words (italics).
Do: Save your work regularly. If your system has the option for automatic timed saves, consider using that. Speaking from experience, there's nothing like losing hours of work because someone from the electricity board cuts a power line in the middle of the night – it can happen!
Do: Use named "style sheets" if your word processor supports them. They make working with the text a lot easier if you want to make global changes without upsetting a lot of manual formatting.
Don't: Use underline for emphasis. Underlining is an ugly hangover from the manual typewriter and it should be avoided at all costs, unless you want to give the impression that the document was manually typed, in which case you'll have to use a daisy wheel or golf-ball printer.
Don't: Use more than two or three fonts in the same document. This is a cardinal rule that every beginner breaks when handed a document processor with many fonts. Some even try the same trick with printer fonts, although the result is less apparent. Use emphasis to stress a point, but don't go barmy.
Don't: Try to move text around by padding it out with spaces. This is a sure-fire recipe for failure, especially if your final print-out uses a proportionally spaced font.
Don't: Mix word-processed right-hand margin justification with a proportional printer font – it won't work.
Don't: Enter carriage returns at the end of every line. Unlike manual typewriters, word processors will calculate the line wrap for you and adjust spacing accordingly. One exception to this is when you are exporting the file to a database or similar application.
Don't: Type as if you were using a typewriter – slow and easy. Since you can go back and correct things later, you can afford to make one or two spelling errors (or typos) per line and fix them before printing.

WATERMARKS

A very professional effect can be gained in the *Final Writer* series by dropping repeating text or pictures behind the main text. (The lingo describes such an effect as a watermark because it appears to run through the paper). Typically this is used in presentation documents with a thematic image running behind the text. For instance, a medical document might have an image of stethoscopes or a doctor's bag.

The best way to achieve the effect is to select the right master page (or left master for facing paged documents) and enter the watermark in that. If you want to use a text theme, the text should be entered in a frame and coloured to at least 90 or even 95 percent white. Make sure you switch the text repulsion off and set the background to transparent.

The frame can then be repeated all over the page or expanded to fit; it depends on the effect you want. An image can be used to accomplish this, but it must be re-coloured in something like *DPaint* or *Art Department* so it is made up from a few, very faint greys. If the image is left in full colour or uses dark greys, it will clash with the text and make it difficult to read.

These effects are not possible in the *Wordworth* series because they place images in front of text, not behind it. You can make a rough approximation in *Wordworth 3* using a text frame in front of a watermarking image; it's a bit trickier to get it right though.

The big downfall of watermarking is that it requires either a colour printer or very high-resolution graphics printer to work well. It is unlikely that a 9-pin will work well (if at all) and 24-pin engine is probably the minimum. Note also that ink-jets aren't good at producing such light shades because the ink dots can run into each other.

COMMERCIAL PRINTING

There comes a time when conventional printing – even using a laser – just isn't fast enough. You may, for instance, want to produce a leaflet or newsletter to distribute to 500 or more people. Clearly it isn't practical to use a simple dot-matrix printer for this sort of thing. Many word processors now have the ability to output Postscript files, but despite what you may have read, it's not that cut and dried. For instance, if your fonts are not compatible with the printer, or worse, if the measurements for some fonts are different, you may get a re-flow on the image setter.

A very cost effective solution to all these problems is to produce the pages – called "artwork" in the trade – yourself. Commercial printers can't work miracles and the quality of the final result will depend on how good the initial artwork is. However, you may be able to use several colours as spot artwork; for example, black text and red headings – even if you use a monochrome printer like a laser engine.

If the work is printed on a glossy art paper, the results can be very impressive. With *Final Writer's* ability to print sideways, you will be able to take advantage of several folding methods such as Z-fold or gate fold to increase the number of "pages". Before attempting any of this though, check that your local printer can use "customer supplied artwork" on A4 sheets. For a multi-colour print job, you will need to include registration and crop marks. This isn't all pie-in-the-sky – I've done it several times and thousands of Amiga users have seen the full-colour results.

Basic colour work is simpler than you might imagine and involves producing a series of two or more "plates". Full colour printing uses four plates: Cyan, Yellow, Magenta and Black, but that is beyond the scope of simple printers. For this type of work you'll need something like a 3000DPI image setter. Let's assume you're going to produce a simple document with three text colours (plus white for the paper). You can use additive colours, but you'll need to check with printer to see which colours will mix correctly.

Before starting, bring the text area in an extra 0.5 inches around the printer's border; this will give you some room for the registration marks. The document is constructed and the text set in its final colours. Stick to simple colours – the screen rendition will be nothing like what the printer will finally produce. Use the same three colours (I used black, blue and red) to draw boxes and other ornaments; but don't try anything too flashy.



A three colour document showing all the text in place. This looks horrible on screen but the final colours are determined by the print shop.

Now use the drawing tools (or import some graphics) around the printable area to act as registration marks. They don't need to be too complex, but they must be there to allow the printer to line the plates up correctly on the press. Also, they must be in some colour that is always printed; that is one you're not using in the document.

Printing this type of document is slightly more difficult than normal. In order to produce each "plate" you need to make two of the three colours white – so that they won't print. Print the document in black and white at the best resolution, reset the colours and continue until you have three plates – each with a black image where the colour will go. Mark each "plate" on the back to indicate what colour it represents and take them to the printer to do the rest! Printing leaflets with special folding techniques, such as Z-Fold, is possible using *Final Writer's* "Wide" orientation in the page setup. The document is set for three columns, with the print borders set to maximum. If your printer cannot print edge-to-edge (many cannot), the document will have to be scaled upwards after printing by photo-enlargement.

A commercial printer will be able to advise you on the exact amount, but it is worth getting a full-sized A4 image reduced to fit inside your printer's borders. You can use this to work out the exact margins for the editable area: this is very important because the three columns define the actual "pages". Wider than normal column gutters – at least 0.3 inches – are the order of the day if the folds are going to fall accurately.

CONCLUSION

As I hope to have proved in this short introduction, modern word processors are a lot more powerful than first meets the eye. A little bit of thought and imagination is all it takes to make an average document into a great one; or a basic flyer into a professional leaflet. Don't be put off by the professionals with their high-powered Macintosh machines and 1200DPI laser printers. This may be a cliche, but never did a phrase apply more than it does here – "It's the thought that counts". AS

SAFETY AND COMFORT

Do: Make sure the desk you're using is at a comfortable height for the keyboard and ensure you can see the monitor clearly. About 45 cm (18") is a comfortable eye-screen distance for most monitors.

Do: Leave plenty of room for the mouse and some space to rest your wrists on. This will avoid (or lessen the chance) of something nasty like back/shoulder strain or RSI. It's also a lot more comfortable in the short term.

Do: Work on a comfortable chair that is positioned at the right height. An adjustable one is best if several members of the family use it.

Do: Turn the monitor's brightness down slightly. When correctly adjusted the black border around the picture should be just that (not some pale grey). Similarly, ensure the contrast and colour settings (if fitted) do not cause flaring.

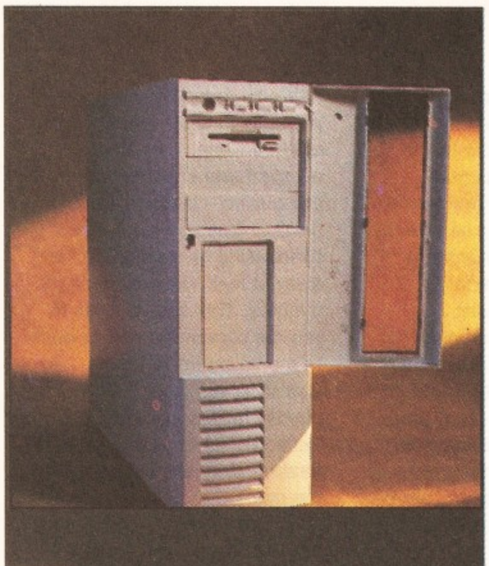
Don't: Use a domestic television for word processing! Although this is the best many of you will be able to afford, such equipment is rarely up to the job. Make a good quality monitor a first priority (even above the printer) or you will be in for serious eye strain and headaches.

Don't: Sit at the keyboard for extensive periods of time. Although this advice applies primarily to touch-typists, it can effect anyone. The effect on eyesight and effective stress is cumulative – take regular breaks. Give your eyes a rest by focusing on something far away at least once every 20 minutes. This applies even if you are constantly looking back to the keyboard.

Don't: Sit with your back to, or, directly facing a window. Reflected light causes eye strain and incident light behind the monitor reduces contrast leading to "monitor blindness". Both conditions are temporary, but the potential long-term effects are not fully explored.

SCREEN DPI

Final Copy and *Final Writer* have an interesting option to adjust the calculated resolution of the screen. The factory setting for these is 80x72 which gives an approximate correction for the Amiga's over-square pixels. This explains why the rulers never seem to match up with each other (the same applies in *Wordworth*) as the program corrects the output by stretching it vertically. Adjusting these values upwards can give a staggering amount of magnification over the 400 per cent offered as standard. The example shown is set to 400 per cent with the screen set to 320x288. The settings can be unique for each open document on the same display: the text in the main window is, in truth, about 1.5 millimetres tall!



A4000T

It's here at last, the mother of all Amigas – the Amiga 4000T. Graeme Sandiford finds out what it can do.

The A4000T is Commodore's newest high-end machine; as you might expect, it's based on the Amiga 4000. Commodore's engineers have worked long and hard to produce an Amiga 4000 with more room for you to add pretty much all the peripherals you are likely to need. Here we take a look at this new wonder-machine to see how much more it has to offer than the standard 040-based 4000. As we have not reviewed the 4000 before, we'll also provide some general information about its capabilities.

The Amiga 4000 has already established itself as an incredibly powerful, versatile and expandable all-purpose computer. It has been built from the ground up to be able to produce high-quality graphics. Its success has been made evident by the use of the Amiga in the film industry, as well as a number of multimedia projects. The AGA-chipset has brought phenomenal graphics power to both the Amiga 1200 and 4000. It is therefore unsurprising that Commodore have stuck with the same graphics configuration.

THE CHIPS ARE DOWN

So what is so special about the AGA-chipset? One major difference between the AGA-chipset and previous Amiga graphics displays is the number of colours that can be displayed. AGA-Amigas can also choose from a larger range of colours. They can select any of nearly 16.8 million colours – this is a vast improvement over the 4096 colours that were on offer previously. Standard Amigas can display 32 colours at low resolution and only 16 while in high resolution mode. AGA machines can now display 256 colours (8-bit quality), and can do this while in all of the new screen resolutions.

However, these are only the standard graphics modes of the Amiga. One of the main reasons the Amiga has made such a great impact in the graphics world is its special HAM (Hold And Modify) mode. This mode can handle even more colours – up to 4096 on a standard Amiga and a maximum of 256,000 on an AGA machine. This new mode is known as HAM-8, and at times its images are almost indistinguishable from full 24-bit ones. The images you can display approach near photographic quality.



The 4000T has plenty of additional ports for connecting peripherals.

The new screen resolutions also improve the quality of the images that can be displayed. The AGA-chipset retains all of the earlier screen resolutions, both the NTSC and PAL ones, and adds a few more of its own. Among the new screen sizes are the SuperHires modes – these are 1280x265 non-interlaced and 1280x512 interlaced. There are several different new modes between the old ones and the SuperHires modes, such as the Super72 modes that include VGA-like modes such as 800x600. Another advantage of possessing an AGA Amiga is the flicker free modes. The DoubleNTSC/PAL modes can produce screen resolutions of the same size of interlaced screens, but without the headache-inducing flicker normally created. However, to take advantage of these flicker free modes you will need to invest in a monitor that can cope with the Amiga's new modes, such as Commodores own 1942 monitor or Microvitec's new Pro-Graphic multi sync monitor.

The AGA-chipset represents excellent value when compared with most 24-bit graphics boards. While using 24-bit graphics will allow you to create images with more colours and higher resolutions, they do cost a substantial amount more and the results will not appear that much superior. If you won't be using your Amiga for professional work you are unlikely to notice the difference in quality between AGA and 24-bit images.

FIRST IMPRESSIONS

It must be said that, despite appearing a little PC-like, the 4000T is pretty darn attractive with its tall elegant shape, fancy looking ventilation grooves and removable smoky plastic front cover. At the same time the casing manages to give an impression of restrained power. It also looks more than a little like something out of a 1980's sci-fi film. But don't worry, it's not likely to become psychotic and start killing members of your family in a series of what appear to be accidents, as things usually do in these types of films. It has quite a small footprint as it measures seven inches across and 19 deep. You can easily place it at the side of your desk, and as its height is approximately 21 inches, you might even try putting it under your desk.

Once you have removed the plastic cover you'll be treated to a view of the machine's multiple drive bays. These 5.25-inch drive bays can be used to house a variety of drives such as floppy drives, CD-ROM drives or even hard drives. The 4000T comes with five drive bays, compared with the standard 4000's two bays. One of the two drive bays in a standard 4000 is occupied by the internal floppy drive. With the 4000T two of the five bays are already taken up. One is filled with the internal floppy drive, the other with the machine's hard drive. This leaves another three bays free for additional drives. This should be more than enough for most people's requirements. However, another of the bays could have been made available if the hard drive was placed further back in the casing. As you don't need frequent access to a hard drive, as you would with a floppy or CD-ROM drive, there is no real reason for having it so close to the front panel.

WORKBENCH REVISIONS

Many Amiga users have been eagerly awaiting version 3.1 Workbench; unfortunately you will have to wait a little while longer as the 4000T only comes with version 3. However, the differences between version 3 and earlier Workbench versions can, at times, be huge.

In essence Workbench 3 is similar to an enhanced version of Workbench 2.1. Version 2.1 of Workbench is easily one of the best environments to be found on any computing platform. As Commodore has made such a good job of creating version 2.1, there has been very little for them to improve on. The main enhancements have been made to facilitate the AGA-chipset.

One of the new features of Workbench 3 is being able to display 256-colour IFF files as both a Workbench or window backdrop. Any serious reason for this new ability escapes me, but it's great for showing off the graphics abilities of the AGA machines. One of the more practical

improvements is the Locale Preference editor. You can use this editor, in conjunction with language libraries, to determine in which language messages and text displays appear. Not only can this new function be used with the pop-up messages displayed on the Workbench, the language libraries can also be used by software developers to help in tailoring the products to a wider international market.

If you regularly exchange files with Macintosh and PC-owners, you'll welcome the inclusion of CrossDOS. This handy program can be used to format and write to IBM compatible disks. Enhancements have also been made to the printer preferences editor, the most notable being direct support for PostScript printers. There are a number of new monitor and printer drivers that have been added as well. Another particularly useful addition is the use of DataTypes. DataTypes can be used with programs that have been designed to utilise them, to add file import or export formats. This can be especially useful for graphics programs, or even word processors. One of the programs that exploit DataTypes is *MultiView*. It can be used to view all manner of files, as long has you have the correct DataType. These include graphics files, text and even the new *AmigaGuide* hypertext formatted documents supplied with most programs.

To make the most of Workbench 3 you will need to purchase an AGA Amiga, but there are enough benefits to be gained from upgrading from earlier versions to version 2.1. It will make your Amiga, and the applications you run on it, operate a lot more efficiently and even more attractively.

THANKS FOR THE MEMORY

With all these new spiffy hires and HAM-8 graphics modes, great demands are made on the Amiga's memory. To meet these demands both the 4000 and 4000T come supplied with a total of 6Mb of memory. 2Mb of the memory supplied is Chip RAM, sometimes called graphics memory. Chip RAM is the area of memory that is used to display images. As AGA pictures can be larger and contain more colour information, their size is often much larger and this means that you will need more Chip RAM to display the image. The remaining 4Mb of memory is Fast RAM – this type of memory can be used for general purposes.

6Mb of memory is a fairly respectable amount, but if you are going to use a computer for serious graphics tasks, such as image manipulation or 3D graphics, you will sooner or later need to expand the amount of memory you have. Given this almost inevitable need for more memory, the maximum amount of memory you can add, with or without additional boards, is an important factor to consider. Both the 4000 and 4000T can be expanded to 18Mb without the need for additional memory boards. They can also be upgraded to a maximum of 1.7Gb with extra memory boards – more than enough for most people! It's a shame that Commodore didn't increase the standard memory configuration. The 4000T is obviously aimed at the high-end Amiga-user, and they are certainly going to need more memory.

FOR THE POWER-USER

A power-user is also likely to need to expand their Amiga in other areas as well as memory. The ease with which the Amiga can be expanded is another of its strong points. You can add a variety of additional hardware, such as graphics cards, sound cards, hard disk controllers and memory expansion boards.

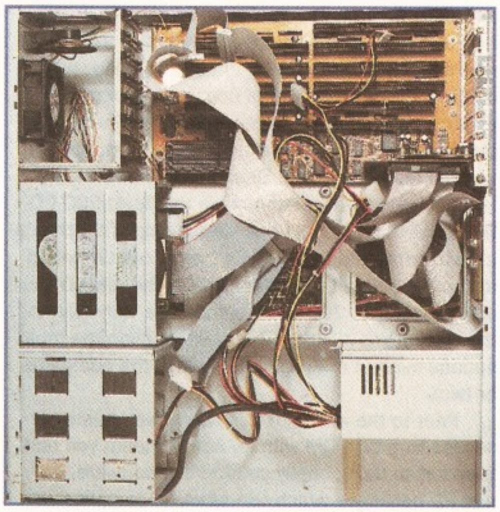
4000T SPECS

Central Processing Unit: Motorola 86LC040 (upgradable)	25MHz
Standard Memory configuration:	2Mb Chip RAM and 6Mb Fast RAM (32-bit)
Maximum on-board Memory:	18Mb
Maximum Memory:	1.7Gb
Zorro III Expansion Slots:	Five
PC/AT Slots:	Four
Video Expansion Slots:	Two
Graphics Chipset:	AGA

The Amiga's expansion slots are also called Zorro slots. The previous versions of high-end Amigas have come equipped with Zorro types I and II slots. The Amiga 4000 comes with type III slots – these are still compatible with most type II boards, but can also handle newer and faster boards such as SCSI II controllers (more on these later).

To allow all of these wonderful expansion boards to be fitted you will need to make room for them, and provide additional expansion slots. The 4000T's tall casing has plenty of extra room; there is plenty of space for expansion slots as well as the additional drive bays. The 4000T has five Zorro slots and four PC/AT slots as well as an additional Video slot. As with the standard 4000, most of the 4000T's Zorro PC/AT slots are positioned side-by-side – this usually means you cannot insert a PC/AT board next to a Zorro-based expansion board. This is not as much of a hindrance as you might imagine, as there aren't too many boards that make use of the PC/AT slots, and all of the five Zorro slots are unlikely to be used at once. One of the more positive aspects of the arrangement of the expansion slots is that one of the Zorro slots, the bottom one, has a video expansion slot next to it. This is particularly useful for developers of graphics boards; they can manufacture a single board that connects with both the video slot and the Zorro slot.

With the addition of type III Zorro slots, the Amiga 4000 has the ability to make use of SCSI II controllers. However, this has been an optional extra – you would have had to purchase the controller separately, such as GVP's. This is no longer the case as the 4000T comes with a SCSI II controller built in. The advantage of a SCSI II controller is that it can transfer information at a faster speed than the standard SCSI controller.



The 4000T has plenty of room for expansion. It has five Zorro type III slots, four PC/AT slots, as well as two video expansion slots.

This is something that you would really appreciate if you have large amounts of data to transfer, and expect to see plenty of new devices to take advantage of this added speed.

The 4000T is fitted with 25MHz 68LC040 processor as standard. If the sheer brute processing power of the 040 chip is not enough for you (some people are never satisfied), be glad of another bit of design foresight on the part of Commodore's designers. The 4000's CPU is not located on the motherboard, as on previous Amigas; it's located on a separate plug-in board. Thanks to this, if you wish to upgrade your processor at a later date, you can simply plug in a new one.

The floppy drive, mentioned earlier on, is not only capable of accepting normal capacity disks. It also supports the use of High Density floppy disks which can contain up to 1.7Mb of data. This is once again particularly useful for handling large HAM-8 and 24-bit images.

DESIGN TRIUMPH, OR DEBACLE?

So, how does the 4000T measure up? Will it meet the needs of the most power-hungry of Amiga-users? As we mentioned before, the main reason for the introduction of the 4000T is to provide more room for expansion. Well, the men and women at Commodore with unusually large foreheads have certainly done a good job in this department.

But is the 4000T really the ultimate Amiga; and if you are searching for a new machine, is this the one for you? The Amiga 4000T offers more power and greater room for expansion, as standard, than any other Amiga. Perhaps, though, they should have included a bit more RAM. This system is obviously aimed at those who intend to use their Amigas professionally. If you are looking to upgrade your existing Amiga, for your personal use, you are probably better off purchasing and expanding an Amiga 1200. There are now numerous expansion options for the 1200 and its processing speed can be increased enough to match that of a 4000 030. However, a dedicated enthusiast might consider upgrading to a 4000 030 for its expandability. In conclusion the 4000T is an impressive machine, but one whose purchase is only justifiable by a professional. AS

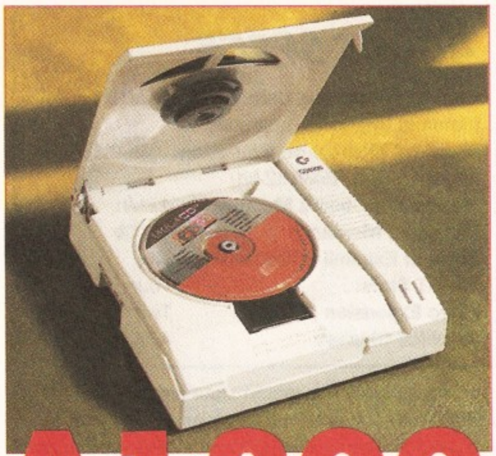
CHECKOUT 4000T

Expandability **95%**
Compared with the standard Amiga 4000, the 4000T has a lot more room for expansion. There are an extra three drive bays, an additional video expansion slot and two more Zorro III slots. It would have been nice if the amount of on-board memory had also been increased.

Speed **90%**
The A400T is the same, performance wise, as the 4000 040. This should be more than fast enough for most people's needs. If it isn't, you can add an accelerator or even a new Central Processing Unit.

Design **88%**
The machine's design is both attractive and spacious. Although, the positioning of the internal hard drive could have been better.

Overall rating **96%**
The Mother of all Amigas, but a machine for power users only.



A1200 CD-ROM Drive

Graeme Sandiford takes a peek into the future, reviewing the A1200 CD-ROM drive, now finally finished. Find out what he makes of it.

It's nearly finished; it's been delayed; er no, it's been scrapped. Well, in fact, the A1200 CD-ROM drive is actually finished, and will be on sale in Germany this month. It should retail for about DM500, which will translate to a sub-£200 price tag when it's released in the UK this September. This is probably the most eagerly awaited piece of A1200 hardware, but how does it perform now that it's here, and how will it improve your productivity?

The new drive first saw the light of day at the CeBit computer show this year and was also on display at the ECTS (European Computer Trade Show). Its appearance is quite pleasing; it looks almost exactly like a truncated version of the CD32 console that has been re-coloured to match the cream colour of the A1200. It's a pretty much self-contained unit with its own power supply and connecting lead to the A1200 itself – both of these plug into the rear of the drive. Also located at the rear are the drive's audio in and audio out sockets and power switch. The drive's headphone socket and volume control are located on the left-side of the drive. All in all, it's a tidy little unit. To insert or remove a CD you can just lift the drive's cover; there is no need for a caddy as with the CDTV, some PC drives or the A570. Some might argue that caddies can help protect CD-ROMs from being scratched or become dirty, but most, I am sure, will find the ease of a caddy-less drive outweighing the small increase in the likelihood of damage.

The connecting lead passes through the blank panel at the right-hand-side the A1200. It then goes on through to its interface which is attached to the expansion port. Among the rumours that were circulating during the drive's development was the unlikely one that the drive would utilise the 1200's PCMCIA slot. This slot can currently be used to connect the 1200 to a variety of peripherals, such as modems, or even add extra memory. This option has been avoided because the PCMCIA slot can only handle 16-bit data. This will slow down the performance of the, otherwise 32-bit, 1200 and lead to slower transfer rates.

However, one disadvantage of using the expansion port is that those 1200-owners who have already purchased memory or accelerator boards will have to sell them in order to make room for the drive's interface. That is, unless some enterprising company comes up with an affordable unit that can be attached to the 1200's expansion port and provide additional expansion ports. If you have not bought a memory expansion you can add up to 4Mb of fast RAM. The drive can accept 32-bit SIMMS (Single In-line Memory Modules); this means you'll probably save £70 on the price of an unpopulated memory expansion board. However, you will be unable to fit an FPU (floating point unit), or other acceleration units.

Another aspect of the drive's development that was the subject of rumour was whether or not the drive would include, or could accept at a later date, an MPEG (Motion Picture Experts Group) unit (the MPEG unit is used to display high-quality images fast enough to give moving images at video quality). Unfortunately, this does seem extremely unlikely now, as there appears to be nowhere to put it, unless MPEG technology undergoes some serious miniaturisation. Despite the unlikelihood, MPEG support is not impossible as the A1200 CD-ROM unit does contain the AIKIKO chip. This chip is able to cope with the CD32's Planar colour modes that are handled by its Planar chip. The AIKIKO chip also helps the 1200 to be compatible with most of the currently available CD32 games (even the most serious-minded of Amiga-users plays the odd game or two).

Prior to the arrival of this new drive, gaining access to a CD-ROM with an Amiga meant you had to resort to using costly commercial software, or use PD packages which can often be complicated. Now, however, things are different; Commodore will be supplying version 3.1 of its operating system. This latest revision has direct support for CD-ROM drives and discs. If you already own a 1200 you are probably familiar with DOSdrivers, such as the ones supplied with *CrossDOS*. Instead of having to waste time copying the drivers etc to the correct directories, there is an installation script that comes with the drive that will install the updated system for you.

But, what can it do with the drive once you have it fitted and running? We've already mentioned that the drive can be used to run CD32 games, but can the drive perform well enough to be used for serious tasks? Well, the drive is basically the same as the CD32. It is a double-speed drive, so you can play audio CDs as well as read data. It is multi-session compliant; this means it can read multi-session CDs such as Kodak's PhotoCDs. PhotoCD is potentially one of the chief serious uses a CD-ROM drive is going to be put to. It's an inexpensive way to get professional quality scanned images. However, the drive's uses don't stop there. PC software developers are starting to take advantage of CD-ROM technology to provide more data with their applications, such as support files. Not ones to be out-done, Amiga developers are also considering expanding their software on to CD-ROMs. For example, Virtual Reality Labs of California have recently conducted a poll of *VistaPro* and *Distant Suns* owners, asking them if they would consider buying *VistaPro*, *Makepath*, *Terraform* and all of their available Digital Elevation Maps on a single disc. Another disc they are considering creating is a *Distant Suns* disc; this would contain all of the extension sets. The extension sets include *Space Visions* – a collection of space-related IFF files that normally comes on 25 disks plus an installation disk. Imagine how many disk swaps a CD-ROM would save!

Commodore have come up with another winner with the A1200 CD-ROM drive – a double-speed, multi-session drive with an on-board expansion socket; all for under £200! The drive has been eagerly awaited by both *serious* and games-playing Amiga-owners, and they should be very happy with the result. You can play CD32 games and do all the serious tasks you expect to do with a CD-ROM drive. The drive is well-built and has proven its reliability with its successful use in the CD32. The only foreseeable problem for Commodore is a potential flood of grey import drives, due to the earlier release in Germany. AS

SPECIFICATIONS

- **Double-Speed capable Drive (300K per sec.)**
- **Multi-session compatible – can be used to access Kodak Photo CD images.**
- **Contains special AIKIKO chip.**
- **Space for 4Mb of 32-bit RAM.**
- **Supplied with Workbench 3.1.**

WHAT
A1200 CD-ROM drive.
WHO
Commodore International
WHERE
The drive will be available from your nearest Amiga-stockist as of September 1994.

CHECKOUT
CD-ROM DRIVE

Features 87%
This is more than just another CD-ROM drive, it is the only one that you can use with Amiga 1200 to play CD32 games. It also has enough room for an additional 4Mb of fast RAM on-board (without the need for another expansion card). However, it would have been good if it had included some kind of thru-port so you could still use your old FPU units etc.

Speed 90%
The drive is double-speed capable. This should be enough for most people's requirements.

Value for money 97%
A CD-ROM drive and memory expansion port for under £200 – what more needs to be said?

Overall rating 92%
This drive provides unprecedented features at an incredible price.

ADI GCSE

An alien encounter with ADI – Wilf Rees takes a telescope to the ADI GCSE package.

Europress have very recently added three new titles to their extensive range of packages for education. That friendly and helpful alien by the name of ADI returns to Earth with a new suite of GCSE dedicated packages aimed at Maths, French and English. Each shares the same 'Environment' front end, filled with an assortment of activities to occupy time, so favoured by previous ADI titles. With this new 'Environment' release we are invited into ADI's living room, which contains a collection of assorted objects. In the centre of the room is an image of a TV, with four click buttons allowing access to some of the Environment options, as well as disk access to the specific application bought with the package. Along the bottom of the screen are a collection of gadgets which provide additional provision for support.

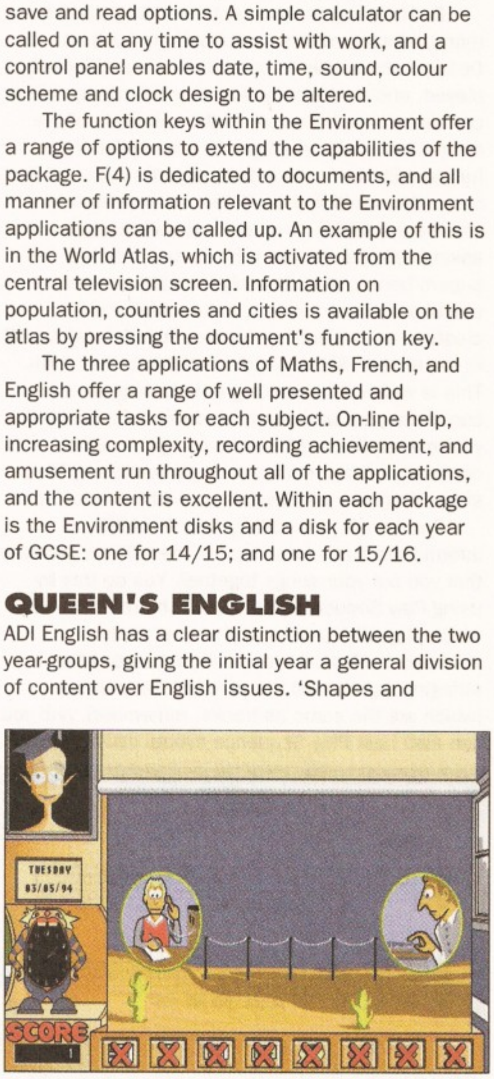
As points are accrued in the Applications section, the program offers a range of games to play, growing in complexity as the points add up. A notebook provides a facility where the user can be jotting information during active use, but this data dies on exit. Two facilities provide means of text recording. A diary and a simple letter writing programme, which are password protected, enable save and read options. A simple calculator can be called on at any time to assist with work, and a control panel enables date, time, sound, colour scheme and clock design to be altered.

The function keys within the Environment offer a range of options to extend the capabilities of the package. F(4) is dedicated to documents, and all manner of information relevant to the Environment applications can be called up. An example of this is in the World Atlas, which is activated from the central television screen. Information on population, countries and cities is available on the atlas by pressing the document's function key.

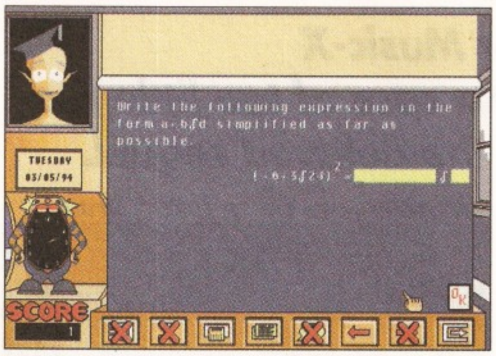
The three applications of Maths, French, and English offer a range of well presented and appropriate tasks for each subject. On-line help, increasing complexity, recording achievement, and amusement run throughout all of the applications, and the content is excellent. Within each package is the Environment disks and a disk for each year of GCSE: one for 14/15; and one for 15/16.

QUEEN'S ENGLISH

ADI English has a clear distinction between the two year-groups, giving the initial year a general division of content over English issues. 'Shapes and Sounds' cover irregular spelling, plurals, apostrophes, homophones (are these head-phones with one ear-piece?), definitions, word-families and more spellings; 'The Architecture of Language' looks at prefixes and suffixes, punctuation, direct and indirect speech, and synonyms and antonyms; 'Picture Words' addresses malapropisms, sentence structure, language, imagery and onomatopoeia; and finally, 'The Power of Comprehension' tackles the understanding of a passage of written text.



One of the sections from the ADIGCSE English. Is what one says, exactly what the other is hearing, or does what we try to say get misinterpreted?



One of the exercises in the Algebra section. A calculator is at hand, available from the icons along the bottom of the screen, a score is kept of performance and on-line help is available.

The second year of English goes more thematic with a 'detective' flavour, covering each of the sub-headings. It uses the context of a training day, following a full case study with police memos in abundance. Each of the chapters is an investigation by a police officer, and covers the slightly more sophisticated areas of understanding English, such as dialect, poetry, prose, drama, alliteration and the use of colons and semi-colons. There are lots of dialogue boxes throughout the applications for both age-groups, and communication with the software is by both mouse and keyboard input.

FRENCH CONNECTION

ADI French is less divided in concept between the two age-groups; it simply moves on to more complex language and concepts, a strategy equally employed by National Curriculum, showing clearly the close consideration given by the developers to the subject this software addresses. At 14\15 there are 6 chapters which cover Street Life, French Geography, Jobs in France, Lost Property, Pocket Money and Holidays. Each chapter has three or four sub-divisions to expand on the title. Holidays, for example, has tests titled: At the Hotel, Camping and Youth Hosteling; Last Year; and Next Year. All of these subjects which are tackled appear as requirements in exam syllabi. 15/16 gets a bit heavier, and moves on to cover more subjects on the required list. The six areas embrace: Everyday Activities; Personal and Social Life; Education and Training; Communications; and The International World. The content in terms of presentation is excellent, as is the language.

MATHS GENIUS

Inevitably, the old maths subject had to be tackled, and Europress haven't flinched from the responsibility with a double whammy aimed at that most dreaded of school exams. Again the content is spot-on with regard to relevance to the N.C. documents, and the chapters have been well defined into specific areas of study, clarifying the content needed to be covered. 14/15 gets straight in at the deep end with Geometry, Transformations, Analytical Geometry, Fractions and Powers, Factorising and Expanding, and Equations. Each is sub-divided into relevant areas. Geometry, for example, covers Pythagoras, Trigonometry and three-dimensional geometry. 15/16 brings in all those areas of grief, so memorable to many of us: Number, Algebra, Shape and Space, and Gathering and Recording. Algebra, for example, reads like a homework nightmare with equations, decimals, fractions, ratios, calculating, estimation, approximation and measuring.

It has to be a programming zealot who can set about writing an entertaining maths tutor, but Europress have done so, and deserve praise. I can only offer praise to Europress for attempting to produce software for the age-group concerned. I have an element of reservation as to whether a 16 year-old will be amused by sitting in front of his or her Amiga, and making extremely silly conversations with a condescending alien, but I'm also sure they've done their homework and feel the context is appropriate. Despite this reservation, the content of the whole of this suite is really quite superb. It's British; it comes from a company with a track record second to none for quality and value; and I have to say to any students out there panicking at the pending exams, or parent wanting to offer a little help, go and buy it! AS

WHAT
ADI GCSE (French, English, Maths) – £34.99/each.
WHO
Europress Software
WHERE
Europress Software ☎ 0625 859333

CHECKOUT
ADI GCSE

Graphics — **89%**
Excellent animations, sound and colour.

Educational Content — **95%**
Covers virtually every aspect of the curriculum.

Relevance for Target Age — **60%**
Not sure about this one. Some might find it too childish.

Documentation — **85%**
Plenty on the Environment, very little on the Applications

Overall rating — **88%**
Excellent quality and superb value educational package for any nervous student (or parent) panicking at the pending exams.

MUSIC-X 2.0

Has the five year wait for Music-X 2.0 been worth it, or is it a case of too little too late? Tim Tucker looks at the delayed sequel.

When *Music-X* was first released back in 1989, it created a lot of excitement in the Amiga music community. Here, for the first time, was a sequencer which really took advantage of the Amiga's hardware and, what's more, it wasn't a port from another computer, as most of the good music software was at the time. The programmers proclaimed themselves behind the software, and promised future upgrades as soon as possible. And... five years later, here it is – *Music-X 2.0*.

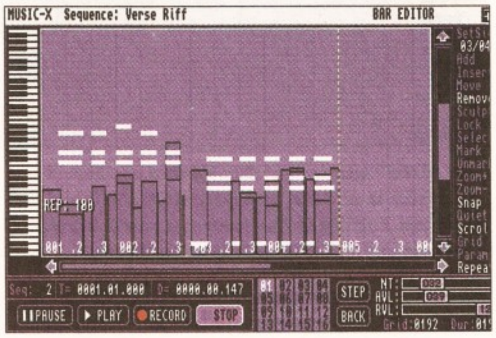
Seeing as it's taken such a long time for this follow-up to arrive, I thought it best to review version 2 from scratch. If you're totally familiar with the original, see the box named WHAT'S NEW? to see what the new features of this upgrade are.

MUSICAL POWER

They say that size isn't important, but in the case of *Music-X* it sure doesn't hurt. Its primary role is that of a MIDI sequencer, but there's so much else packed into the innocent looking disk that the term "sequencer" doesn't do it justice.

For a start, the main sequencer section contains 250 separate tracks to record into. That's a hell of a lot of tracks (compare it to Dr T's *KCS* which only has 36), but before you start composing your 200 part orchestral work, bear in mind that the software can only play back 20 tracks at a time. The benefit of all those extra tracks is that you get 250 places to store your MIDI information, plus other events which we'll get to shortly. For example, you can keep three different versions of a piano part, which you might want to use in different occurrences of a musical section to add variation.

Recording music into these tracks is actually quite a fiddly process, and one of my major criticisms with the program. Instead of just pressing record and play (which you can do in *KCS* for example), the programmers have thrown a few impediments in. First you have to define a track (or Sequence, as *Music-X* calls it) for recording to. That's easy enough; just click on an empty track, but then hitting record brings up a requester which offers some fairly useful, but hardly commonly used, options, such as "Mute target sequence" and "Punch In Manual". It's also here that you define the Count-in, and the number of bars you want to record (which defaults to 4095, so you'll invariably have to change that straight-away too).



The graphical editing page is one of the best features of Music-X. Grab and drag – it's easy.

My other gripe with the recording process is that you can't specify any parameters on input. The most annoying is the lack of quantisation at this stage, a feature which by far the majority of users would use on practically every recording. To actually quantise the newly recorded track, you have to go to the edit page and select the quantise value from there. Then you have to store the edited track to ensure that the edits aren't lost, return to the main sequencer page and start work on the next track. Of course, all this soon becomes second nature, but it's far too long a process when you're trying to whack down as much as you can while you're still musically inspired.

The same goes for looping. You might record eight bars of music and want to hear it loop indefinitely to get into the groove and think up some new ideas. But guess what – you're going to have to go into the edit page again to add a Repeat event into the sequence. Tiresome! There is a Loop option on recording, but it only loops during the recording process, not on playback, and each pass is recorded on top of the previous ones, so you'll still have to go and edit out all the unwanted takes.

Apart from these complaints, the main sequencing page has a good range of features. You can set up parts of the song for punching in and out, either manually or automatically (which is handy for recording over mistakes in a previously recorded track), and tracks can be muted during playback with a click of the mouse. Another frightful omission, though, is a solo option, which is common on nearly all other sequencers, and is dead handy for isolating certain tracks while listening back.

EDITING

Fortunately, the editing section of *Music-X 2.0* is superb (I say fortunately, because you're forced to spend a lot of time there). All MIDI information is displayed either graphically as coloured bars, with different colours indicating separate MIDI channels, or as an event list. The graphical Bar editor is the most friendly, as it's easy to just pick up notes and other data with the mouse and move them around the track, but if you really want to get to the nuts and bolts of a sequence, the event list is your man.

Both editing environments contain a modules menu, which provides useful options such as Deflam, which deletes notes that are accidentally played, and the Velocity Scaler and Flattener, which can make broad changes to the velocities of the notes that would take ages to accomplish if you had to edit each note individually. It's also in this menu that you'll find an AREXX support feature – choose the AREXX item and a requester appears asking which script you want to run. This is a superb bonus, as it not only provides some very useful scripts as presets, but enables you to create your own editing macros, complete with built in requesters, sliders, radio buttons and so forth. This is well worth spending time looking at, as it can make your work so much easier, especially if you're spending a lot of time using the same commands in the editor, such as quantising to sixteenth notes and levelling out all the velocities.

But it's not just editing recorded MIDI information that takes place in the editor – it's here that you put your songs together. You do this by using Play Sequence events, which are commands which play other tracks that you've already recorded in *Music-X*. You construct a song by stringing together all the different Sequences (which are the same as tracks, remember), and you can also nest Play Sequence events inside each



Not only do you get all the usual musical signs, but also all the text options you could want.

NOTATOR-X

It seems that most of the work of upgrading *Music-X* has gone into writing this entirely separate program, *Notator-X*, which comes as part of the package. As you might imagine, this is a score writing program which enables you to build your own musical scores and print them out. It's comprehensive – providing all the note values, clefs, time and key signatures that you could possibly need, and a good range of musical symbols, such as Dynamics, Coda, Segno, Repeat Bars, Crescendo, Diminuendo, Legato, Staccato, Slurs, Trill, Fermata, Sustain Pedal and Accents. It's also very easy to use, giving you the option to use the mouse or the keyboard to put your score together. The results are very nice to look at, and with a good printer this is more than capable of providing very professional results.

The integration of *Notator-X* with *Music-X* is a little more limited. You can import *Music-X* .perf files and display them, and you can send scores that you've put together in *Notator-X* over to *Music-X* to play them. *Notator-X* can store up to 36 tracks, but only 18 staves, so if you want more than 18 tracks transcribed you'll have to put two tracks in each staff. The biggest disappointment is that the two programs don't interact in real time, so if you make any changes to the score, they won't be reflected in *Music-X* until you port the newly edited score over again. Conversely, when you play the track in *Music-X*, the score doesn't move with the music; you have to scroll manually and try to keep up with the music. It's asking a bit much to expect this amount of power at this price, but it means that you'll have to be pretty conversant with written music to get the most out of *Notator-X*.

WHAT'S NEW?

Multiple MIDI Ports – *Music-X 2.0* can access more than one MIDI Out port, giving you more than the standard 16 MIDI channels on output. You need the requisite MIDI interface with extra Outs on to take advantage of this feature. The software can address eight separate MIDI Outs, giving you up to 128 MIDI channels.

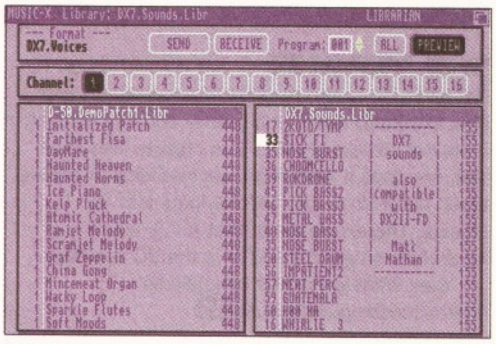
Edit Options – some new tools have been added to the Editor, including Sculpt, which enables you to graphically edit MIDI parameters with the mouse, a new expanded Quantiser module, including swing factors and offset values, a Deflam for treating notes that were accidentally struck together, and a much improved Logical Select option, which enables you to select events by channel, pitch, velocity, and all sorts of other user-definable methods.

AREXX – the editor now uses *Music-X*-specific AREXX commands, which can be written as scripts and accessed through the AREXX menu in the editor. You have to have AREXX installed on your system to take advantage of this. Some useful pre-written AREXX scripts are provided, but you can edit these and write your own using a standard text editing program, such as Ed.

Controlmap – like Keymap, but instead of re-mapping MIDI notes, it re-directs MIDI control change messages

Amiga Samples – the Samples page can now contain up to 64 separate samples, as long as you have the memory to store them, and they now respond to MIDI information, such as program change, velocity, pitch bend and various control change messages.

Notator-X – See separate section on *Notator-X* for information on this powerful score writing add-on.



The inclusion of a Librarian Module is a bonus that very few sequencers offer.

other. This is handy if, for example, you wanted to create a Play Sequence event called Verse, which would play the drums, bass and guitar tracks for a certain section of your song, and then play *that* sequence in a larger sequence called Song, along with Choruses and other sections. This approach makes viewing your entire composition much easier as the resulting Control sequence displays the Play Sequence events as a string of horizontal bars, and gives a good clear overview of the whole thing. However, it's easy to get confused about which of your 250 tracks are actually MIDI tracks, Play Sequence tracks, or nested Play Sequence tracks. This is something that both *KCS* and *Bars and Pipes* do better with their dedicated song construction pages.

CHANNELS OF COMMUNICATION

The Filters page of *Music-X 2.0* is where you stipulate which MIDI channel you want your music recorded on. As with the rest of the program, this is extremely comprehensive, enabling you to map different types of MIDI information to different channels; for example, you could have note information coming in to the program on MIDI channel 1 being re-directed to channel 4, while Aftertouch on the same MIDI channel gets sent to MIDI channel 5. If channel 4 was a synth, and channel 5 was an effects unit which could respond to Aftertouch messages (many can), you could alter the reverb settings while you actually play, creating reverb swells when you hit big significant chords for example. The possibilities are endless.

The Filters page also features two sub-modules, the Keymap and Controlmap pages. Keymap is a remarkably handy section which enables you to control certain aspects of the program from the music keyboard. For example, you can assign the bottom notes of the keyboard to start and stop the sequencer, and the top notes to send program change messages on certain MIDI channels. The flexibility this allows is immense.

Controlmap is new to *Music-X 2.0*, and does the same as Keymap, but with Control Change messages. For example, you could assign your Modulation Wheel to control tempo changes in the sequencer. All this can be recorded to a new track, making it a lot quicker to alter certain parameters in real time. You can load and save Keymaps and Controlmaps from disk, so you can keep a directory full of the most useful ones and load them in when necessary. I've not seen features like this on any other sequencer, and a little experimentation can produce some powerful results.

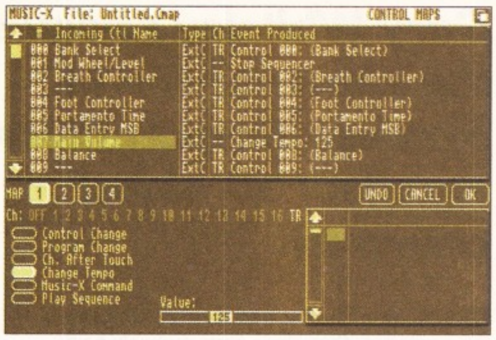
SOUND MECHANICS

Of all music sequencers available for the Amiga, *Music-X* is by far the best for dealing with internal samples recorded on the Amiga. There's a dedicated Samples page, in which you can store up to 64 different Amiga samples (memory permitting); both the standard Amiga IFF format samples, and *Sonix* files. You can edit the attack and decay envelopes for each sample individually, as well as the playback speed, and this upgrade even enables the samples to respond to keyboard velocity (the harder you hit the keys, the louder the sample), pitch bend messages, and a host of other MIDI commands. You can also use standard program change messages to call up the samples you want to play. It's very simple to work with, and allows for maximum integration and flexibility with digitised sounds.

The built-in Librarian provides a generic editing environment, which you can use to edit, load and save sounds on whichever synth or tone module you're using. *Music-X 2.0* comes bundled with banks of sounds for the Roland D50, Yamaha DX7 and DX100, and the Casio CZ-1000, and protocols are provided for editing all these synths, plus the Oberheim Matrix-6, Roland MT-32 and the Yamaha TX81Z. You can write your own protocols for other synths, but this is really aimed at experienced programmers. It's still a genuine bonus though.

WORTH THE WAIT?

For just under £150, *Music-X 2.0* packs a hell of a lot in, and the range of features provided is equalled only by Blue Ribbon's *Bars and Pipes*. It's a shame then that the program has such a



One of the new parts of release 2 is this Controlmap page, a very powerful feature.

muddled way of working. Some operations are so tediously long winded, that it can quite put you out of the flow of your music-making at times. Apart from the notable exception of *Notator-X*, the upgrade doesn't really try to improve on the original software at all. To give one extremely annoying example; I found an infuriating little idiosyncrasy in the original program, which was the inexplicable addition of a single clock beat at the end of recorded tracks which contained a steady flow of information, such as a hi-hat track. This stopped the track from looping properly, and required a trip to the event editor to remove it, adding even more messing about to an already fiddly process, and... *it hasn't been fixed in this upgrade.* What a crime!

For sheer professionalism and ease of use, Dr T's *KCS* has yet to be beaten, and *Bars and Pipes* comes a close second. As for *Music-X 2.0* – it's a very powerful package, some parts of which are extremely well designed, but it'll require another, more significant upgrade before it can take on its superior competitors. AS

WHAT
Music-X 2.0 – £149.99
Upgrade – £79.99

WHO
The Software Business

WHERE
The Software Business Ltd Cromwell Business Centre, New Road, St Ives, Huntingdon PE17 4BG. ☎ 0480 496497

CHECKOUT Music-X 2.0

Features 90%
More than you'd expect from a MIDI sequencer has been packed into *Music-X 2.0*, including fabulous notation software *Notator-X*.

Ease of Use 64%
A fussy interface gets in the way of creativity.

Documentation 70%
A good comprehensive manual, although the upgraded features are contained in a separate addendum, so a lot of cross referencing is required for new users.

Value for Money 87%
It's amazing how much you get for your cash.

Overall Rating 80%
It'll do all you want it to, but it'll take longer than necessary. Some glaring omissions can't be forgiven, but it may well be the sequencer for you.

INTERCHANGE PLUS

Gary Whiteley reviews the latest version of Syndesis Corporation's excellent 3D object converter.

If you use 3D programs for modelling and rendering, then there have probably been times when you've looked longingly at an object and thought: "Hey, that's just the thing for my new project – but it's in a format that my 3D program can't use!" So what do you do? Spend hours modelling an object which isn't quite so good, and then panic as your deadline grows ever nearer? Well, what would you say if I told you there was an easier way? That's right, because with *InterChange Plus* (version 3.0) object conversion got even easier – and faster too.

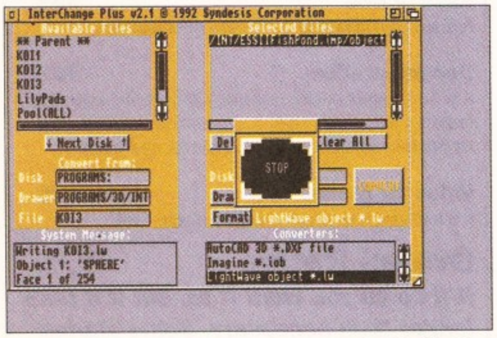
Syndesis Corporation's *InterChange Plus* (*ICP*) started life as plain *InterChange* almost seven years ago, but since then it has been refined and tweaked, extended and optimised, and it remains the premier object conversion software for the Amiga. In fact, Syndesis are so good at their job that they were asked to write all the object loaders (TIOs) for NewTek's Video Toaster software. There *are* other conversion programs, such as Axiom Software's *Pixel 3D Professional*, but they just don't perform to the standard that *ICP* does.

Unlike its competitors, *ICP* is almost fanatically dedicated to converting vector-based files (in other words 3D objects and some desktop publishing files) from one format to another. Most of the major formats are now included in the package, which is especially good news when you learn that some of the high-end workstation format converters used to be available only at extra cost – and some of them were pretty expensive. But now *Wavefront*, *3D Studio*, and *AutoCAD* converters are included, in addition to the more common *Imagine*, *TurboSilver*, *Sculpt 3D/4D*, *VideoScape3D* and *VistaDEM* format converters. However, some converters, such as those for *SoftImage*, *Topas*, *Digital Arts* and *Swivel* are still only available separately, and at extra cost. *Professional Draw* and *Aegis Draw* vector objects are also supported.

You might have noticed that a couple of well-known Amiga formats are conspicuous by their absence – and for good reason. *Caligari* isn't supported because of the difficulties Syndesis had in consistently converting objects to and from *Caligari's* rather unorthodox object format. And *Real 3D* (any version) isn't covered because Syndesis were apparently unable to get hold of the format specifications. However, *Caligari* can load *LightWave* objects, and *Sculpt 3D* and DXF objects can be converted within *Real 3D*, so at least *ICP* will still be of some use in either case.

REQUIREMENTS

Any Amiga with at least DOS 1.2. Any amount of memory is OK, though larger objects will require larger amounts of memory. Accelerated Amiga recommended, but not essential. ICP needs up to 3MB of hard drive space for full installation.



The interface is plain, but the power behind is the important part. InterChange Plus gets on with the job in hand without the need for fancy GUIs.

IT'S YOUR CHOICE

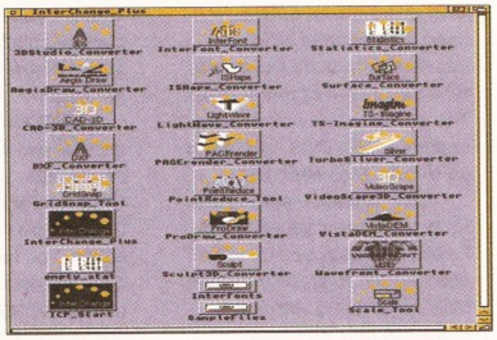
ICP is easy to use. All that's required is to run the main program, then run as many converter modules as you wish – ensuring that you run a module representative of the incoming object format as well as the outgoing one. So, for instance, if you wished to convert a *3D Studio* .3DS file to *Imagine* .iob format both the *3D Studio* and *Imagine/TurboSilver* 3.0 modules must be running.

The rest is easy. Pick the object you wish to convert from the requester, decide where you want to save it, and then press the convert button. *ICP* crunches away and converts the object to your chosen format. There are a few things that *ICP* cannot do – but these are limitations caused by circumstances beyond the program's control. Take surface attributes, for example. There's little common ground between all the various object formats so far as surface attributes are concerned – so a camouflage texture from *Imagine 2.9* can't be translated into a material that *3D Studio* can recognise. Usually only the colours of an object will be converted with any degree of accuracy.

Any object which has surface mapping will suffer similar problems, since there are so many different image formats, wrapping methods, and ways of placing them that it really is unreasonable to expect *ICP* to be able to sort them out. There's no point in moaning about this – just be thankful that you've saved a lot of time and got the object nicely converted and get down to the task of resetting the object's attributes and surface maps.

But *ICP* keeps any object groupings and hierarchies intact, so objects that play together stay together. There are a few tool modules as well, such as Scale, Point Reduce and Grid Snap, but in practice I find it better to use a 3D modelling program to control these functions' post-conversion. But they're there if you need them.

One of the extras included with *ICP* is *InterFont* (which was sold separately before being integrated into *ICP* version 2.0) which turns special fonts into 3D objects. A wide range of *InterFont* fonts are included, but you can also design your own with the InterFont Designer supplied – should you really wish. Whilst *InterFont* might not be much use to those with the latest 3D software, it does work quickly and easily and the results aren't half bad. With its built-in extrude and smoothing functions *InterFont* can save a lot of 3D modelling work.



InterChange Plus has a wide array of different modules for converting between many different 3D object formats.

THE VERDICT

ICP fulfils its stated mission of converting object files extremely well – and quickly and efficiently. It does not convert bitmaps into objects (like *Pixel 3D*), nor does it have any object building or editing tools, but it *does* turn special fonts into 3D objects. There's no doubt that *ICP* is a very worthwhile program if you're in the 3D business.

Gary Whiteley can be e-mailed as drgaz@cix.compulink.co.uk AS

WHAT
InterChange Plus – US$199.95
Special offer – US$129.95 plus $8 shipping to Europe
WHO
Syndesis Corporation
WHERE
Syndesis Corporation, 235 South Main Street, Jefferson, WI 53549, USA. ☎ 0101 414 6745200. Fax: 0101 414 6746363. (No UK distributor).

CHECKOUT
INTERCHANGE PLUS v3.0

Documentation **90%**
Written well, and in great detail, though there aren't many pictures.

Features **88%**
Apart from *Real3D*, *Caligari* and several high-end workstation formats, *ICP* can handle most current 3D object formats, as well as some DTP vector formats, and special 3D font operations are also included.

Speed **92%**
ICP handles conversions quickly and easily, and demands minimal intervention from the user.

Price **87%**
At Syndesis's special offer price I'd say this is a definite must for all serious Amiga 3D users.

Overall rating **91%**
Good solid conversion carried out quickly and reliably, with the minimum of fuss. Buy this software!

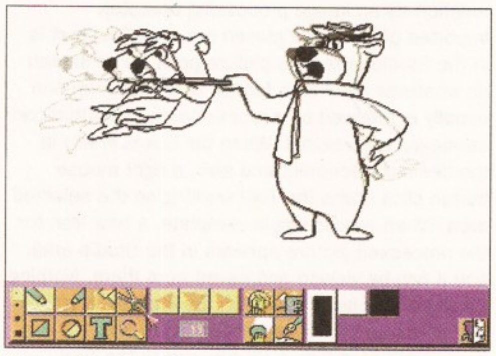
Animation Workshop

Did you, like Graeme Sandiford, grow up with the Flintstones? Then you should enjoy this animation package from Hanna-Barbera.

Yabba-dabba-doo! I'm sorry, it's just that I've been waiting to use that catch phrase for some time, and with the arrival of the *Hanna-Barbera Animation Workshop* I've got my chance. Like most people, I grew up watching episodes of *Flintstones* each week-day evening. It's not just the *Flintstones* either; Hanna-Barbera is one the most prolific animation houses in the world. Because of the company's reputation, the release of the *Animation Workshop* has been eagerly awaited.

The program has been designed to teach young children how to animate. When we say animate, we don't just mean this in the technical sense; it also provides some helpful guidelines on how you can make your animations humourous and, to a certain extent, realistic. The program's only requirements are 1Mb of RAM and a willingness learn. One of the first problems that is often encountered by a child learning to animate on a computer is drawing with a mouse. To help overcome this problem, the program has built-in support for Rombo's range of digitisers.

Another unique aspect to the program is the inclusion of example files that feature popular Hanna-Barbera characters. The files include backgrounds, characters, and moving characters. There are examples taken from the *Flintstones*, *Jetsons*, *Yoggi Bear* and *Scooby Doo*. There is a chapter in the manual that relates to the files which give a few tips on how to use the examples to improve your own animating skills. They can also help a child produce good results within a short period of time.



Onion-skinning allows previous animation frames to show through in fainter colour.



The Hanna-Barbera Animation Workshop comes with plenty of example animations.

WHAT
Hanna-Barbera Animation Workshop – £44.99
WHO
Empire Software
WHERE
LeisureSoft ☎ 0604 768711

The program is divided into three main drawing modes: Background Paint; Foreground Paint; and Foreground Animate. As well as making the program easier to use, it also introduces important animation concepts. The Background Paint mode is for creating background images for you to play your animations over. Once you have completed your background, you can switch to Foreground Animate to draw or load outlines of the characters you wish to animate. This mode can only display in two colours, so you need to go to the Foreground Paint mode to add more colour. Once you created the frames you need and your characters' outlines, you can then fill them in the Foreground Paint mode. Once you're happy with the components of your animation, you can return to the main menu to view the animation. If you are not happy with the results, you can alter the playback speed or even insert frames from an exposure list.

When you enter Background Paint mode, you'll find it has a number of tools that are common to most paint and animation packages. You have a freehand pencil tool, a straight line tool, a scissor tool for cutting brushes, a fill tool, a zoom icon, a text tool and icons for drawing circles and squares. You also have the option of choosing a size for your brush. There is a palette that consists of eight colours – these colours can be edited until you are happy with them. These eight colours will then remain your background colours despite which colours will be used for your animation's foreground colours. This method saves the child from having to worry too much about selecting his or her colours. There are also icons for undoing your last action and one for clearing the screen completely. If you click on the background icon this will switch you to the Foreground Paint mode.

At first Foreground Paint mode seems the same as Background Paint mode. There are only a few more icons, the most notable of which are the animation ones. The animation icons, like most of the others, are simple to use. There are three: one for moving forward a frame; one for moving backwards; and another for inserting a new frame at the current position. While you are in this mode, if you click on the scissor tool you will be taken to the load brush area. Once you have loaded the frame from which you want to cut a brush, you can select an area of the screen using a bounding box. When you return to the Foreground Paint screen the brush will be ready to paste. The other icon that you may notice is the animate icon; pressing this will take you to Foreground Animate mode.

Foreground Animate mode is almost identical to Foreground Paint mode. The only differences are the two-colour palette and the ability to onion-skin frames. Onion-skinning is a technique that can be employed to make your animations more life-like. It achieves this by letting the previous two frames show through the current one. The current frame's default colour is black and the frames beneath are successively lighter shades of grey; this gives the impression of viewing the frames through a translucent surface such as an onion-skin. This method is useful because you can position the character of the current frame more accurately, relative to its previous position.

Once you are happy with the overall animation you can save it to disk. However, if you want to show your animation off to your friends, they must own a copy of the *Animation Workshop* themselves. It would have been far better if the program included a freely-distributable animation display program. While I'm having a good old moan, the manual does not mention whether or not you can load backgrounds painted in other programs. Well, it is possible, but you have to be sure you save it with a eight-colour palette in low resolution non-interlaced mode and give it a .bkg extension. The program is an excellent way to introduce a young child into the world of computer animation, but falls short when it comes to taking them beyond the basics. This is due mainly to its lack of functions. It is potentially a very good program, but just doesn't provide enough long-term interest for children. It might be good at introducing animation concepts, but sooner or later the child is going to need the power and versatility afforded by a program such as *DPaint*. AS

CHECKOUT
ANIMATION WORKSHOP

Documentation **97%**
The documentation is excellent, friendly, easy-to-understand, and even humourous.

Ease of Use **90%**
A child should be able to use the program with a minimum amount effort.

Features **60%**
There are some unique features, but sadly there really aren't enough.

Price **79%**
The program is a little too pricey for what it does.

Overall rating **68%**
It is an excellent idea, but it lacks the features necessary to make more than just an introduction to computer animation.

Image Mirror

R Shamms Mortier checks out Image Mirror, an image-processing and animation package that makes absolutely all of its functions available through a visual interface.

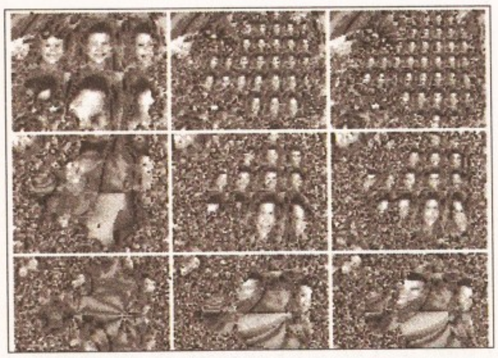
Some developers have strayed far from visual interfaces on the Amiga, and have treated it as if it were just another verbally oriented system. This is unfortunate, because I believe that most Amiga owners bought their systems because of the lure of visual interfacing, evident even in the way one can redesign the icons that populate the Workbench screen. Image Processing software especially should function as much as possible within a visual, rather than a verbal, realm. The three main Amiga Image Processing packages (ASDG's *ADPro*, GVP's *ImageFX*, and BlackBelt's *ImageMaster*) accomplish that to a certain stage, but all of them depend to a larger degree upon verbalising their operations.

A NEW PLAYER

Seven Seas Software has a reputation in the Amiga community for producing some of the most spectacular mathematical visualisation software on any platform, especially its flagship program *MathVision*. *MathVision*, without the user ever being aware of it, is the engine that runs *Image Mirror*. Whereas *MathVision* is full of mathematical and verbal command structures, *Image Mirror* has only two commands that are verbal in nature: "save" and "quit." The rest of the extremely complex image processing operations are completely visual in nature, activated by simply dragging specific icons from place to place, or double clicking on various tools to set their configurations from loads of choices. Though this is a unique product, unlike any other Seven Seas offering, experienced Seven Seas' customers will be tempted to see an evolutionary line connecting *Doug's Math Aquarium* (Seven Seas first major package) to *MathVision* to *Image Mirror*.

THE TWO SCREEN AREAS

Image Mirror allows you to work in two separated screen areas: Tools and Studio. The Tools area is where various image processing operators are stored. The Studio area is where processing is set in motion. Tools are double clicked on to access their optional configurations. Then a Tool is dragged over into the Studio area in order to function as an image processing operator. Imported pictures are placed over any Tool that is in the Studio area. The picture pops up on screen (in whatever resolution format is displayable) and usually is followed by a rubber banded box that can be moved and resized. When the box is finally in the desired placement and size, a right mouse button click starts the Tool working on the selected area. When processing is complete, a new icon for the processed picture appears in the Studio area, and it can be viewed and saved from there. Nothing could be simpler or more fun. By the way, if you try and mess up by moving something to an impossible area (like a Studio icon to the Tool area), the offending member simply rebounds back to where it belongs. No offensive verbal remarks or gurus need apply.



Here is the Image Mirror configuration screen for the "Mandel" tool.

THE STUDIO ICONS

There are eight separate icons that reside in the Studio area, and each has a valuable task to aid the *Image Mirror* artist and animator. The first one that you will probably use is "LoadPic". It is shaped like two people doing a picture trade over a table. Clicking on it brings up a standard file requester from which you find the path to the picture you want to load. 24bit pictures show up as HAM-8s on A1200s and 4000s. The freshly loaded picture appears in the Studio as a separate icon, shaped like a face. This is the icon that you "drop" into various tools for image processing later on. After loading the picture, you'll probably want to display it. To do that, you drop it into the "DrawPic" icon in the Studio.

Other icons represent alternate options. "Archive" (a picture of the pyramids!) allows you to save out any processed image. "Destroy" (paper being cut up) gets rid of an image from the Studio. "Print" prints it, and "ReName" does what it says. Then there's "StoryLine" – when you drop an already processed image in here, you are presented with two options: "Original Image to This," or "This to Original Image." This allows you to go either forward or backwards with your animation. When the image has had a StoryLine created, and a ".sb" added to its file name, it is ready to be dropped into the "Animate" icon, which we will cover in a moment.

JARGON BUSTING

Anti-aliasing – "smoothing" out the jaggies, those irritating effects that appear when you blow up a computer graphic image.
Vector – literally a direction in space that defines applied characteristics of a designated effect.
Mandelbrot – Benoit Mandelbrot is responsible for what is called the third great scientific revolution in this century (after quantum dynamics and relativity). Mandelbrot "pictures" display fractal (pieces of) dimensions on a 2D plane, allowing us to "see" chaotic and organic processes in action.

THE TOOLS

The *Image Mirror* "Tools" area is loaded with image processing operators. Some of these Tools operate on one image, and some on two connected images (compositing one on the other). It should be noted that when you select one of the parameter settings in a Tool, there are many more options at stake in addition to how the representative configuration looks. In each configuration, there is also the possibility of clicking in various points, so that each configuration really represents 64,000 possible settings depending on where you click! So that means that with only the twenty-one Tools listed in this first edition of *Image Mirror* we have 21 x 64,000 = 1,344,000 possibilities. Multiply this by any number, because you can always send the picture through another Tool for reprocessing. Even with a limited amount of Tools, the image processing possibilities are almost endless.

The eight double Tools are:

Pic1<2: allows you to place one image in another, so that in an associated animation the second image appears gradually into the first. Nice for fading in lettering and also for creating fade-in morphs.

Wave1<2: this is a refraction tool that allows you to see an image as if it is below water or through cloudy plastic. It is very effective when used as a blurring transition.

Bright1<2: this operator takes the Luma (brightness) areas of one image and applies it to the other image, so that specific areas become brighter. One use is to have an area of an image suddenly glow brighter, like superimposed lettering or any other image element.

FadeThru: fades areas of one image into another image. Like compositing a foreground image with a background.

2PicMove: what a great way to create wipes with two images, one over the other!

Clip1<2: a selected area of one image gradually appears inside another image over time when animated.

ChromaKey: this term indicates a buzz process from the television industry. ChromaKeying indicates a process whereby selected colours in an image are seen as transparent drop-outs, allowing other images to be seen in the background (like placing the weather person in front of a map for instance). In *Image Mirror*, two images are treated in the same manner with this Tool.

KScope: *Image Mirror's* Kaleidoscope Tool produces very interesting images. It takes two separate pictures and combines them in a faceted circular arrangement, as if seen through an old Kaleidoscope from the five and ten.

The thirteen single Tools are:

Zoom: with this Tool, the user crops out a selected area of a picture. This area then becomes the entire picture. What makes this Tool so amazing is that *Image Mirror* is able to apply very effective algorithms that smooth out the final picture, so you never feel that by zooming in you're getting more jaggies.

Rotate: select any area of a picture for various degrees and optional rotations. Ever seen an eye



Here is an extraordinary image prior to processing in Image Mirror to make it even more different.

rotate sideways?

Noise: "Noise" looks like visual paint spattering, and this Tool allows you to apply noise to any area of (or the entire) image.

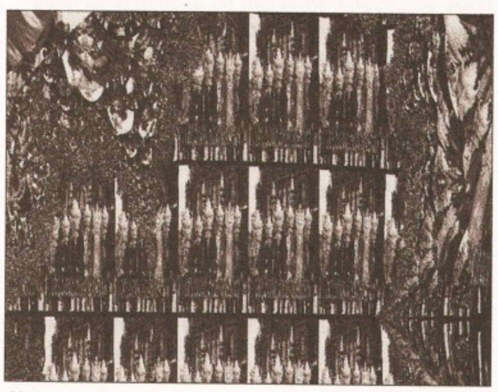
Bubble: don't think that "Bubble" means only convex contortions of the image, because it also produces concave effects. The anti-aliasing around the edges is exemplary, so that this effect looks very organic when applied to facial features.

Flip: "Flip" is not limited to horizontal and vertical mirroring effects, but includes 28 (x 64,000) possibilities. You must experiment with this Tool to get an idea of how it might be applied.

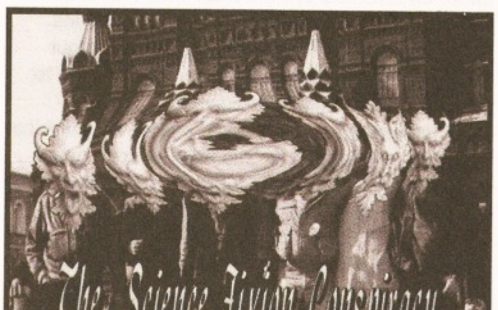
Frayed: selected image parts (or the entire image) takes on a spattered paint appearance. Great for creating image wipes.

Tiling: sometimes called "wallpapering", this effect allows you to select any size area of a picture, and create another separate picture composed of cloned pictures like the size you selected. Great for developing 3D texture maps or logo background images!

Move: this is a very complex effect that deserves a lot of experimentation. Areas of the picture move to other places, displacing picture elements as they go.



Here are the results of one of the Mandel tool's configurations on the image shown above.



One of the "Bubble" tools configurations in Image Mirror adds even more strange effects to our imagery. Remember, all of the effects are very easily animated!

Twist: this could just as easily have been called "Twirl" like its *ADPro* counterpart. You select an area of the image and a Twist configuration, and then apply the effects. Various twists in the entire image follow the area around, which is why (I guess) it's called twist instead of twirl.

Reflect: a Reflection is a mirroring of the image across a drawn vector. With this Tool, you draw a line anywhere on the image, and what is on one side (depending upon the configuration chosen) gets reflected on the other. The anti-aliasing on 24bit images is superlative!

Mandel: based upon various Mandelbrot fractal variations, this Tool can be found nowhere else. It allows you to build a Mandelbrot painting from your selected image, and gives you loads of configurations (9 x 64,000 = 5,760,000 for a start). Even when you think you've "figured this out," the results are always surprising and spectacular.

Vignette: a "Vignette" is a photographer's term that indicates an image that has fuzzed out edges, and *Image Mirror* allows you to create literally thousands of vignette types.

Stretch: the IM Stretch Tool gives you the power to stretch one feature of a picture in any chosen direction and size.

Animation: it's easier than ever! This is the best part, the sweet pudding at the end of a great meal. Animating with *Image Mirror* is so user friendly that it's ridiculous. After you have created a StoryLine from your picture(s), you just drop them in the "Animate" area icon (it looks like a lion being trained). You also have the option of dropping other nonstoryboarded processed images into the Animate area – as many as you'd like. They each become keyframes in an animation.

Can you imagine how complex your finished project can be? Double click on the Animate icon, and up pops a requester that allows you several options: Extended Options (disk margin parameter, starting/ending parameters, instruction, changes plotting instructions, preview selected frame, Load/Save settings); File Name and Path (default path is in the "T" directory); Number of Frames; Next Frame; Build Frames... this means GO! And you're off and away, generating animation frames very quickly because much of the processing has already been precalculated, and the *MathVision* engine is grinding out 24bit frames in the background. If every animation program was this easy to use, we would all be happier little dongles.

CONCLUSIONS AND COMPARISONS

In a sense, *Image Mirror* can't really be compared to the other three Amiga image processors mentioned. It offers none of the other niceties, like file translation, resizing, true morphing (at least not at this stage). However, the fact that it is an awesome image processor that is extremely easy to use for both static image warps and animations gives it a presence in the very same company of its peers. I would like to see freehand draw areas added to the options provided, so that more definitive selections could be made as to what part of a picture is to be altered.

More tools are coming in future versions, as well as support to add tools developed by other parties. I do not think experienced Amiga users are going to toss their present image processing package overboard in favour of *Image Mirror*, but I do think that this package will be a needed utility that will help users develop warping and other animations more intuitively than the other wares provide.



The next to final step before an animation is created is to create a Image Mirror "Story Line" (a Storyboard that has nine separate keyframe views of an animation). From here, all that you have to decide is how many frames the finished animation will have. The more frames, the smoother the transitions.

As for new Amiga users interested in Image Processing, *Image Mirror* is an easier way than any of the others, and they might take a serious look at its way of doing business. If you are interested in developing animations from image processing alternatives, than you will find *Image Mirror* to be one of your best choices. AS

WHAT
***Image Mirror MSLP* – US$ 149**
WHO
Seven Seas Software (US)
WHERE
Seven Seas Software
PO Box 1451, Port Townsend, WA 98368
☎ 0101 206 385-1956

CHECKOUT
IMAGE MIRROR

Ease of Use:	99%
Number of Warping Features:	86%
Animation Features/Ease of Use:	96%
Documentation:	82%
Expandability:	93%
Customer Support:	95%
Positioned against the "Big Three" as an all-round full featured package:	50%
Positioned against the "Big Three" as an Image Processor:	82%
Overall Rating:	**88%**

If you are interested in developing animations from image processing alternatives, then Mirror Image is one of your best choices.

Window Shopper

Window Shopper contains reviews of hardware, software and books in a compact formula. Check out this month's batch of goodies.

Whether you are looking to enter the world of CD-ROM technology, struggling with the complexities of AmigaDOS 3, or trying to add a clock without having to waste your expansion port, you'll find a product to meet your needs in this month's edition of *Window Shopper*.

REAL TIME CLOCK

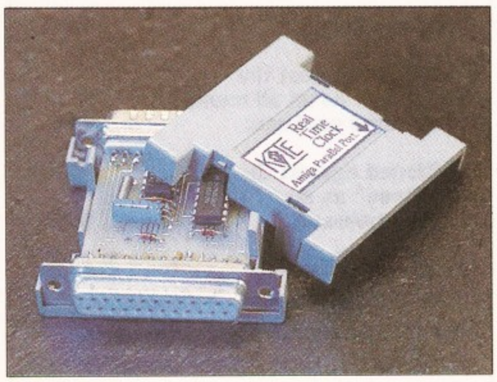
Kyte Products

Here's a problem: you want to install a clock in your Amiga 500, 600 or 1200, but you've already installed a memory expansion. Or perhaps you have just bought a new 1200 which is still within its one year warranty. How can you install a clock without invalidating your warranty, or sacrificing your RAM expansion?

One solution is to purchase one of Kyte Product's Real-Time clocks. This is an interesting product; it's a battery-backed clock with a difference. Instead of installing this clock in your trap door expansion slot, it can simply be inserted into your Amiga's parallel port. What, I hear you say, about my printer and my Parnet connection to my CDTV? Don't worry, the clock is equipped with a thru' port so you can still plug your printers, cables or dongles as well as the clock. You just plug the clock in, then plug the cable into the other end of the clock – easy eh?

The clock also comes with installation software and some utilities. The installation itself is pretty straightforward; you just double-click on the install icon. There is one thing you will need to bear in mind; the installation routine will need to alter the user-startup. This means that if you are working on a floppy-based system you will need to alter the startup-sequence of any disk you are likely to boot from if you want to access the current date and time. To do this, you will need to boot up from the disk you wish to boot from in the future, then run the installation program.

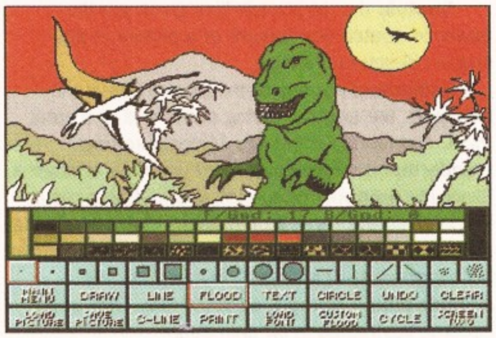
The utilities that come with the clock are Set Time, At, Alarm and Calendar. Set simply sets current date and time. Calendar can be used to remind you of important dates and appointments. Alarm reads the data files that are created by Calendar, and will then display the message that will remind you of the up-coming event. It is an interesting and useful program; it can execute a command at any specified time. It can also execute multiple commands; this makes it ideal for repetitive tasks such as backing-up files.



With the Real Time Clock from Kyte Products, you can have a clock without opening your Amiga.

Product: ***Real Time Clock***
Price: ***£13.99 (plus £1 P&P)***
Supplier: ***Kyte Products***
Address: ***45 St Ladoc Road, Keynsham, Avon BS18 2DR.***

Overall Rating: 91%



Smarty Paints comes with plenty of example pictures to colour in – I couldn't resist this one!

SMARTY PAINTS

Chroma

The Amiga has long been an artist's tool, and is just establishing a reputation as a machine that can be used in education. *Smarty Paints* aims to fit into both roles as an educational paint program. The program's previous version, on the Nimbus, was known as *Borealis* and was well-received in schools across the country. It has now been converted for use on both the Amiga and PC. The idea behind *Smarty Paints* is quite simple – it's a fully configurable graphics package. The number of different icons and tools that most packages have can be quite bewildering for a young child. To make it easier for children to learn how to use painting programs you can reduce the number of functions available for each user. For example, you could limit the program to just a few basic drawing tools for a five-year-old, or a few more for an 11-year-old. Thanks to a unique licensing agreement, a working copy of the program can be made for each child in a household.

Smarty Paints is not intended to be a high-end painting program, it has been designed to be easy to use for children aged between 5 and 11, or even for adults who will be using a paint program for the first time. It would therefore be unfair to expect too many functions, or to be able to create a digital masterpiece. The program's strongest area is configurability; it's this level of configurability that makes the program unique. The principle behind *Smarty Paints*' method of operation is simple. There are two main areas of the program: the main menu, and the SMART menu. The SMART menu is where you will perform all of your drawing and painting tasks. The main menu is where you configure the program to suit the user's needs.

To create your own custom SMART menu, you need to select which tools you'll need from the main menu. This is simply a matter of clicking on the Stack S. Menu button and then selecting each tool you wish to add to the SMART menu in turn. To leave the SMART menu item select mode, you just click on the Stack S. Menu button again, and when you return to the Smart menu you'll find that the tools will have been already added. The only limitations on how you configure your SMART menu is a maximum of 23 buttons and the exclusion of certain items. Once you have a configuration that is appropriate for the intended user, the configuration can be saved as a file. When the program is run, it looks to this file to determine which options will be available to the user.

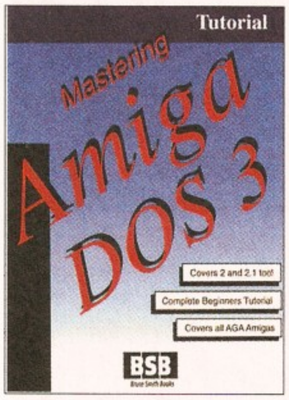
For an educational program *Smarty Paints* has quite a large number of tools. Draw is the program's freehand drawing tool; it can be used by the youngest of children. The Line function is another simple tool; it draws a straight line between two points. C-Line draws a continuous line; it's a bit like drawing a series of connected lines, end-to-end. Rays can be used to draw lines that 'radiate' from a central point. The program also has the standard predetermined shapes, such as a box, circle ellipse, frame, disc and oval. As well as the normal flood Tool, there is also a Custom Flood tool that will fill an area with a pattern taken from the current brush. The program's Text function can be used to type with any black and white Amiga bitmap font. The Zoom function is a tad limited; you can't form a bounding box, or set a zoom level in order to specify a zoom area. You can also cut and paste areas of the screen and save or load them as brushes. Once you have copied a brush, you have the option to flip it horizontally or vertically. One of my favourite tools is the symmetry function. It acts like a mirror by producing a mirror-image of whatever you draw, either on a vertical or horizontal axis. This is great for producing symmetrical patterns and shapes. There is an option for loading and saving colour palettes. The palette can also be colour-cycled to produce simple animation effects.

The program requires 1Mb, and if your machine is equipped with 1Mb of chip RAM you can open two workscreens. Despite fulfiling its role as an educational paint package there are a couple of things that could be improved, although they are only minor. It would have been nice if the program supported AGA-graphics modes. The program was also a little slow in operation, particularly when loading images. Despite these minor niggles the program has some very good features. It comes with some good support files and outline pictures for younger children (and me) to fill in. The manual is well written and easy-to-understand. As a whole, the program is a great introduction to the all-too-

confusing world of computer graphics.

Product: Smarty Paints
Price: £28.50 (plus £1.50 P&P)
Supplier: Chroma
Tel: (0328) 862693

Overall Rating: 84%



Unravel all the mystries of AmigaDOS, and improve the efficiency of your system at the same time, with Mark Smiddy and Bruce Smith's "Mastering AmigaDOS 3".

AMIGADOS 3 TUTORIAL (VOLUME 2)

Bruce Smith Books

The Amiga has been blessed with one of the most flexible and powerful operating systems available on any computing platform, but it can appear more than a little daunting at first. The *Mastering...* series of books has gone a long way to helping confused Amiga-users get to grips with various aspects of the Amiga's operation. With the arrival of AmigaDOS 3 even more functions and abilities have been added to the Amiga's operating system. Of course, this means there are plenty of new things that you will have to learn in order to make the most of AmigaDOS' new features. Once again, Bruce Smith Books has come to the rescue with a two-volume guide to *Mastering Amiga DOS 3* written by Mark Smiddy and Bruce Smith. We take a look at the second volume – the tutorial.

Even if you don't think you are going to use AmigaDOS regularly, you'll be surprised by the number of useful things that are covered by the book. It explains how to streamline your startup-sequence, install fonts and explains how the various Devices work. While the coming of AmigaDOS 3 has prompted the release of *Mastering AmigaDOS 3*, many of the functions are available to users of AmigaDOS 2 and 2.1. This volume is aimed at the novice Amiga-user, and attempts to bring the reader to a fairly advanced level of competence. In order to achieve this goal, the book takes a modular approach, covering each area of AmigaDOS in a logical sequence. Each chapter has a useful overview, so you can see which topics will be covered. It also helps you to find things that you don't quite understand, so you can go back over difficult subjects.

It starts off with the simpler areas of AmigaDOS, such as formatting disks and copying files. It also has a chapter dedicated to introducing the basic concepts needed to understand the following chapters. It even helps the reader to spot common mistakes, such as syntax errors. Each chapter contains example scripts and sometimes diagrams to explain complicated commands. These can be especially useful in later chapters.

One of the practical chapters of the book deals with advanced file management, explaining how to perform necessary everyday tasks, such as examining text and binary files and searching for files. Being able to understand (even a little of) the information contained in a binary file can sometimes be useful. Knowing how to use search patterns to find files can also prove time-saving.

The Advanced System Control chapter also covers some particularly useful information. It shows you how to change your system fonts, select which Keymaps you wish to use, control your printer, switch your fast memory on and off, and even how to keep an eye on your CPU's activity.

The book's manner is friendly and informative, although a little confusing at times. It explains all the essentials of AmigaDOS 3 in a way that aids retention and gives the reader an insight into how the various commands and utilities work, not just expecting you to learn a few commands off by heart. It is a valuable guide to all those who wish to enter the wonderful world of AmigaDOS.

Product: Mastering AmigaDOS 3 – Tutorial
Price: £21.95
Supplier: Bruce Smith Books
Tel: (0923) 893493

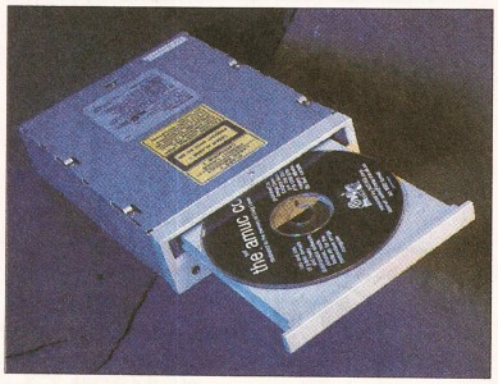
Overall Rating: 92%

TANDEM CD+IDE CONTROLLER & MITSUMI FX001D CD-ROM DRIVE

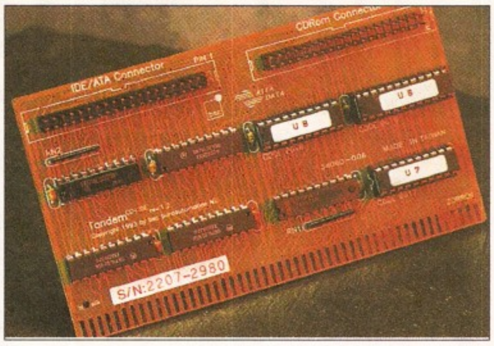
Gasteiner

Commodore have just released the new A1200 CD-ROM drive, and a very nice drive it is too (why not check out the review on page 26 of this issue?). However, there is still no definite news on when we can expect a drive for the A4000. If you can't wait for Commodore's drive, and you are positively bursting with anticipation thinking about all the lovely stuff that is available on CD-ROM, there are other options available. One of the more inexpensive alternatives is Gasteiner's combination of a Mitsumi CD-ROM drive and a Tandem CD-ROM and IDE drive controller which costs £229.

The controller is quite a unique piece of hardware; it can be used to control a CD-ROM and IDE hard drive. The main advantage of using this controller is that it gives access to both devices, while only occupying one expansion slot. The CD-ROM interface is unique to the drive, so it is unlikely that you'll be able to attach a CD-ROM drive other than one of the Mitsumi range of drives. The controller is quite small and fits into a Zorro type II or III slot comfortably. Once the controller has been inserted, it's a simple matter to attach the CD-ROM drive and a IDE hard disk or SyQuest



Mitsumi's FX001D CD-ROM is multi-session compatible and runs at double-speed.



Why put two controllers into your Amiga when you can just put in a Tandem Controller and Go?

S03105A 3.5-inch removable drive if you have them. Unlike SCSI cables, the cables supplied with the drive can be inserted either way round.

The CD-ROM drive is then attached via this cable and takes its power internally from the Amiga. If you get hold of Commodore's forthcoming version 3.1 of Workbench, you'll be able to use the drive directly as it will support this new version when it arrives. To access the drive without Workbench 3.1 is still straight-forward, as the controller comes with its own installation script. It makes use of Installer, so you can have as little or as much control over the installation process as you want. The drive is also compatible with the ASIM CD-ROM filesystem. The drive comes with a few utilities as well. *EjectCD* is a tiny program that performs a simple task – it opens a small window on your Workbench screen with an eject icon and when you click on it, the drive's tray opens or closes. *ForcePhotoCD* is for use with the older LU-005S drive, which had difficulty detecting PhotoCDs. *CacheCDFS* is a filesystem that will speed up the access of data by making use of a buffer. However, this will only work with a ISO9660 formatted disc, although the drive can be used to access HFS and Rockridge discs as well. *KillDev* is a simple and handy program that will unmount the CD Device. If you want to listen to music CDs, you can use *PlayCD* which is similar to the CD player supplied with the CDTV.

The drive itself has already proved popular in the PC World. This is due mainly to its cheap price, especially the earlier single-speed drives which could be purchased for under £100. This version is a significant step up; it is multi-session-compatible and runs at double-speed. Its build-quality is not exactly fantastic and it is a trifle noisy, but it has proved itself to be a reliable drive. As it is multi-session-compatible you should encounter no difficulty in accessing PhotoCD images.

This bundle of controller and drive really makes economic sense; for £229 you get the controller, drive and a controller for an IDE drive. Another plus point is a BBS where you can receive on-line help; this is a good idea and hopefully more Amiga developers will follow suit. We recommend this drive to anyone who would like to enter the multimedia boom as inexpensively as possible. Oh yes, look out for the 1200 version that's planned...

Product: Tandem Controller and Mitsumi FX001D CD-ROM drive
Price: £229
Supplier: Gasteiner
Tel: (081) 345 6000

Overall Rating: 87% AS

Talking Shop

Have your say. We've got £25 on offer for the best letter each month. Send your opinions to: "Talking Shop", Amiga Shopper, 30 Monmouth Street, Bath, Avon BA1 2BW.

AN EVOLUTIONARY RUT?

£25 WINNER

I suppose everyone is excited about the new "Super Amiga", with its RSIC CPU that is five times faster than the Pentium, the AAA chip set that will compete with Silicon Graphics' machines, the ability to run Windows NT... The list is endless, and I have to say I'm more than a little interested myself, but Commodore haven't shown us anything yet.

What's most surprising is that nobody has noticed a tiny problem about that CPU, the one that's five times as fast as the Pentium: it doesn't exist. Not a single present day CPU approaches that kind of performance. The 66MHz Pentium has a performance of around 65 SPECint92 and 63 SPECfp92 *[that's, respectively, integer and floating point speed measurements – Ed]*. The new Super Amiga chip is going to have to produce at least 325 SPECint92 and 315 SPECfp92. The first RISC chip to attain that level of performance will be DEC's Alpha line, in the form of the EV-5, which won't be available until mid-1995 at the earliest.

Even if Commodore do manage to pull that off, if the new machine runs Windows NT then it will be an Amiga only in name. Look at Silicon Graphics: they got fed up making NT machines based on their Mips R4x00 CPU and handed over the job to NEC, and returned to their own UNIX OS which they tailored the way they wanted it. Windows NT, in contrast, is a shrink-wrapped operating system which is basically unmodifiable by vendors. If Commodore goes down the path of NT then CBM might stay, but the Amiga and its customers will not make the transition.

Perhaps Commodore should take this opportunity to really enhance the Amiga's operating system. Release 2 didn't really provide any fundamental changes, such as memory protection and virtual memory, networking, object orientation or multi-user support. Since its birth the Amiga has had dozens of features that PC users are now raving about, such as pre-emptive multi-tasking, Dynamic Link Libraries and inter-process communication. Commodore should have made more of the Amiga's then advanced features to developers instead of letting the machine become nothing more than a console with a keyboard. Commodore have been accused of resting on their laurles over graphics, but the problem is much greater.

I have had experience on a number of machines, including the Acorn Archimedes, IBM PCs and Apple Macintoshes, and would like to say that the Amiga beats them hands down, but it doesn't. Unless Commodore do something really special with the new Super Amiga, I'm off to spend my money somewhere else because I can't afford to be stuck in an evolutionary rut, which is where the Amiga is now.

David Lambert
Garrowhill, Glasgow

Well made points. The things you mention – memory protection, multi-user support, and so forth – are of course the features of a truly professional operating system to run on a truly professional computer. Perhaps we'll see this mystery Commodore buyer (turn to page 4 for the very latest on this) starting to market the Amiga as the high-end system it could be.

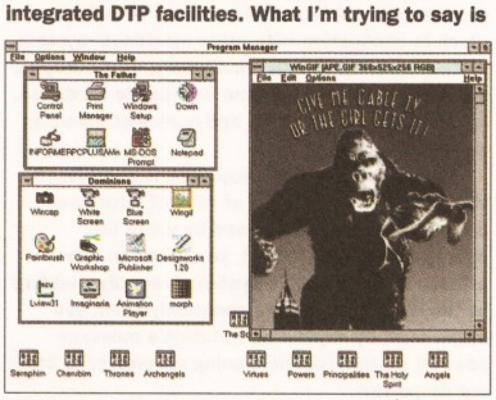
But some people are more than happy with the Amiga's operating system as it stands...

WHO NEEDS WINDOWS?

One of the best reasons to choose the Amiga in preference to other computers is Workbench. Compared to other operating systems such as Windows or System 7, the Amiga's bevelled, fully multi-tasking environment is a great pleasure to use, not to mention extremely versatile. Titles such as *Real 3D 2, ADPro 2.5* and *PageStream 3* all conform to Commodore's guidelines, which has to be a good thing.

What concerns me, however, is that Commodore claim that the new Amiga range will be compatible with Windows NT (in the interview with Dawn Levack in issue 37). If this is the case, there would be little incentive for developers to produce Workbench and Amiga-specific software, simply because they would make more profit from developing for Windows.

To be honest, I very much doubt we need Windows compatibility anyway. With *SBase Pro 4, Real 3D 2, PageStream 3, Brilliance, Bars And Pipes Professional* and *ADPro 2.5*, the Amiga leads all other platforms in graphics, business, sound and desktop publishing. Okay, so the PC has *Word For Windows*, but *PageStream 3* is every bit as good as this package for raw word-processing, and has the advantage of powerful integrated DTP facilities. What I'm trying to say is that we shouldn't want PC compatibility and, as Amiga owners, should instead advise owners of other machines to switch over and use the best computer available – the Amiga.



Windows – that monster of a graphics front-end so prevalent among PCs. But Windows for the next Amiga? Pah! "Who needs it" asks Daniel White?

Daniel White
Walsall, West Midlands

Any plans that Commodore may have had about the new Amiga I'm certain will be on hold for the time being, at least until a buyer has been announced.

Sorry to be a realist, but what you say about the Amiga leading all other platforms in "graphics, business, sound and desktop publishing" just ain't true. *PageStream 3* may well turn out to be the best DTP package on any platform, but until it's finished and on sale we won't know. And *Final Writer* may be the best Amiga word processor, but it just isn't as powerful as *Word For Windows*.

CONFIDENT WITH AREXX

Having started using *Art Department Professional* only recently, I would be very interested in writing/learning scripts for this and other programs. As I've never attempted to use ARexx before I'll obviously need some basic programming techniques, so maybe it would be possible for you to cover both topics (basic techniques and the writing of scripts for specific programs) all in one regular monthly column.

As more readers and Amiga users in general become confident with ARexx programming the higher-end programs become less threatening to the average user who may venture into using more serious software and thus lift the Amiga up with them.

Fran Guerin
Co. Dublin, Ireland

We did actually run an ARexx series from issues 19 to 36 doing pretty much what you're suggesting, including the writing of scripts for *ADPro*. If enough people think it's worth going over this ground again, perhaps in more depth, then we will.

JUST AS IT IS

Great magazine – keep it just as it is (well, nearly)! *Please* start an assembly language tutorial (you asked – I'm telling), and also only put a cover disk on the mag occasionally.

Gary Whelan
Dukinfield, Cheshire

After overwhelming demand, I'm pleased to announce that you can look forward to an assembly language tutorial in the very near future (and the cover disk will remain an occasional item).

THE LUCKY ONE OR TWO

I would like to say that although the prizes that you give away are great, they are inevitably for the lucky one or two that get picked. How about offering a smaller prize such as a decent

shareware program (*EasyCalc*, for example), thus letting more people have the chance to win and also help those who need our backing – the programmers?

I know that the prizes you give away are donated by very generous organisations, but that is also their way of getting the product advertised. So how about letting the smaller programmers make some money – it's the only way they will survive? I would be willing to pay a nominal fee to take a chance on winning.

If my letter is printed I will be sending for your editor's *Complete Amiga C* as I find Toby Simpson's articles very interesting and informative.

Barry Noble
Stockton, Cleveland

That's the sort of letter I like to read! (Turn to page 82 to discover how to order your very own copy of the book that everyone's saying is "a book about C programming on the Amiga.") But seriously, Barry, we're actively looking to increase the number of competitions we have running each month so we can have a number of smaller prizes on offer as well as the biggie. The idea of giving away registered shareware packages is an excellent one – we'll certainly look into it.

FROM LITTLE ACORNS

Firstly, congratulations on producing a brill magazine. I know you feel that cover disks are "Boring Bulletins" but I must agree with you on your policy of only supplying a cover disk when you feel it would benefit the readers. How many of us have a box of disks that are hardly ever used? I personally extract programs I feel I may use, store them on to disks according to categories (Utilities, Text Editors, Art etc.) then use the original cover disk for other work.

I would like to take this opportunity to thank you for your latest DTP article, "The World Is Designed." After reading it I thought I should do something along these lines, as DTP is a subject I am interested in, but as yet had done very little to learn about. The result is that after a bit of leg work, chatting to various shop keepers and a few hours at the dek, I now have two newsagents, one garage and one gift shop who are willing to use my services. Also, after having popped into a local publishing establishment for a chat, there may be the possibility of doing some proof reading (albeit on a very occasional basis). Still, from little acorns and all that...

In a recent publication I read a letter from a reader who wanted to know why Commodore didn't supply a monitor with the top-of-the-range A4000; as we all know, if you were to buy a PC or Mac at that sort of price you would get a complete set-up. The argument was that the Amiga is a "home computer" that can be used with a TV *[except that the A4000 doesn't have a TV modulator – Ed]*. I suppose there may be some poor little rich kid who can spend daddy's *[or mummy's – Ed]* money on a top-of-the range computer just to play games on, but what a waste!

The A4000 is something any Amiga fan would love to own, myself included, but surely it is aimed at the professional or serious end of the market? I would like to see the A4000 also supplied with something like a PC or Mac emulator as well; perhaps this would be one way of stopping youngsters selling their beloved Amigas and having to trade down to an "industry standard' machine (IBM compatible, in other words). That way we would surely get the best of all worlds. Such a machine could be used in schools and colleges. I know that Commodore want to be taken seriously by the commercial world – is this one way to start the ball rolling?

As a closing note, I would also like to add my support for articles on machine coding.

Alan Martin
Kensington Gore, London

It's really great to hear the DTP article led you to success. I hope things continue to go well.

You suggest the A4000 should be sold with an emulator as standard – I guess that's really the idea behind next year's "Super Amiga" with its Windows NT compatibility. But I do wonder if Daniel White (see his letter on the previous page – *Definitely Amiga-Based*) isn't correct when he suggests that developers wouldn't bother developing Amiga-specific software if they had the option of creating Windows NT software without losing out on the Amiga market.

THE SPAGHETTI APPROACH

So people are asking for articles on assembler programming *[see the letter A Vote For Assembler in last month's issue – Ed]*. This may not be a good idea. Don't get me wrong; it's not that I dislike assembler, but I fear what is coming... the *straight through* method of coding (starting at line 1 and carrying on till line 573), the immediate use of the Exec library's *Forbid* routine, the accesses to fixed system memory locations, the hard-coding of parameters for screen height and so on, the *spaghetti* approach to branches, the implementation of timing and delays via continuous loops...

I quake with anticipation of programs that crash on processors with caches; that scramble the screens of machines other than the one used by the programmer; that don't respect mode-promotion; that fall over at the next system upgrade; that collapse into a state of shock on finding a non-standard peripheral or memory board; that wage civil war on background tasks; that adopt the *ethnic cleansing* approach to the operating system and fellow programs...

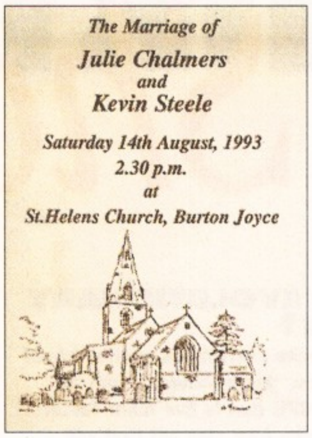
Before you proceed, please read the *ACC* review on page 64 of your January 1994 issue (turn to page 62 if you missed this one). Please have a look at *Code Clinic* on pages 46 and 47 of your June issue – for taking keyboard input, "reading the $bfec01 register is not guaranteed to work." Compare this to the assembler tutorial in one of your rival's magazines – "reading the keyboard couldn't be easier... all you have to do is read the byte held in $bfec01."

The Amiga has an operating system that I can only describe as beautiful (a word I've not heard much in connection with other machines' system software). It multi-tasks faultlessly, never drops a signal, runs on low-cost and accessible hardware, has negligible overheads, and is almost infinitely expandable.

Could I ask that you approach assembler (if you do so) from the point of view of structured programming techniques and by using the operating system? Indeed, you could do a few articles on the Amiga's system generally. Judging by the disasters that are commonly seen, you might start by explaining *Intuition*'s message-passing system (perhaps using assembler to bring out its power).

DR Halliday
Catford, London

Hey, you can rest assured that our assembler series will be presenting nothing but the very best programming techniques, along with operating system-legal code. You should expect no less, especially since all of the examples you quote from previous issues reinforce exactly that.



It's amazing what you can do with your Amiga. Kevin Steele used it to create the stationary for his own wedding (with a bit of help from the best man and his scanner, naturally).

MY WEDDING LAST YEAR

You are always asking us to write and tell you what we get up to with our Amigas, so here is a quick idea that may save some readers a few hundred quid.

As it's spring, the time when many people start planning a summer wedding in earnest and panicking about how to pay for it all, I thought you might like to hear about my wedding last year. As I said, it's very expensive these days, so anything that helps cut the bills has to be a good thing. I used my trusty Amiga to produce all the stationary for the whole thing, and here's how...

The equipment I own is nothing flash at all – an A1200 with 80Mb hard disk, Philips monitor and a Citizen 9-pin printer (I also loaned a few bits and pieces).

The invites were written in *Wordworth 2*, using the Blackchancery font (which I got free on a cover disk with *Amiga Shopper*) and printed on to "parchment type" paper, bought for five pence a sheet. Each invite was individually printed with the person's name – a little time consuming, but worth the effort. They were then rolled into scrolls and tied up with ribbons to match the bridesmaids' dresses.

The order of service was a little bit trickier, but I'm quite proud of it. The cover was laid out in *PageStream 2*. The picture of the church was scanned in from a parish magazine using a Power Scanner and touched up in *Deluxe Paint*. It was printed out at A4 size on a Canon BJ10ex. The inside was done in *Wordworth 2*, and again printed with the Canon. The seating plan was done in *PageStream 2*, and all the "thank yous", present lists and so on were done in *Wordworth 2*.

All in all, I'm sure I saved quite a lot of money and got a far more personal set of stationary than any of the shops offered. I hope this inspires someone else to have a go, and really make their Amiga work for its living.

PS. I must just say thanks to Alastair, my best man, who let me use his Power Scanner and BJ10ex printer.

Kevin Steele
Netherfield, Notthingham

Many congratulations – I just hope you're not devoting too much of your time to your beloved Amiga!

We're always interested in hearing about unusual uses for the Amiga, so please write in if you have one to share.

IMPROVE YOUR CHANCE OF WINNING £25

Wit, intelligent comment, readability, humour – all these are synonymous with *Amiga Shopper's Talking Shop* section. In an effort to keep it that way and, if such a thing is possible, improve it, we offer a little guidance – not to be taken *too* seriously – towards the sort of letters we'd like to see, and away from those that, early in the morning, cause the editor to cry: "Oh no! Not another one!" And don't forget, folks, we give £25 each month to the writer of the best letter.

DELIGHTFUL DISPATCHES

How *you* would market the Amiga
Yet more unusual Amiga uses
Adventures on the Internet
The Amiga's future
Making money with your Amiga
The dream operating system
The A4000T

MANGY MISSIVES

An assembly column (we've got the message!)
Libellous comments about computer manufacturers
Shameless plugs for Cliff's book
Workbench is better than Windows (we know!)

Don't worry – this is not an exclusive list. Needless to say, we're more than happy to receive letters on other subjects. Keep 'em coming!

THANKS FOR MY PHONE BILL

What has happened to your comms coverage? It seems to be getting less and less space in the magazine, almost as if you were trying to lose it altogether. *Please don't!* I've just seen the latest issue of *Amiga Shopper*, number 38, and almost missed Dave Winder's review of *Terminus*. It wasn't even included in the contents.

What I find really amazing is that right now comms and the Internet are getting massive media coverage – the newspapers, magazines and radio are all doing stories about comms. In fact, didn't I see your own Dave Winder on BBC 2's *The Net* explaining the Internet?

I don't know about anyone else – maybe I'm his only fan and that is why he is vanishing – but I think Dave Winder is an *excellent* writer about comms; I really look forward to his columns. If it wasn't for Dave I wouldn't have got into comms at all; his words enthused me, so I have him and *Amiga Shopper* to thank for my phone bill!

Seriously though, when I first started buying the magazine there was a two page column every month, then it became every other month, then only one page, and now we are lucky to see one page (if we can find it, seeing as how you hide it so well) every three months or so.

What is happening?

Surely *Amiga Shopper* is exactly the magazine that should be at the forefront of this type of technology?

Jake Pearson
Sutton, Surrey

Indeed it is, and indeed it will be. We cut back on our comms coverage simply because our surveys showed very few of you owned or used modems. Since doing so, we've had a huge number of letters demanding more comms coverage. Well, you'll all be pleased to know that the main feature next month is going to be a complete guide to the Internet (turn to page 98 for more details). How's that for service?

CD-ROM EXPANSIONS

I own an A1200 and, due to the rapidly increasing use of CD-ROMs, would like to add a CD-ROM drive to my system. However, like many other A1200 owners who would be likely to buy this relatively expensive add-on, I already have an expansion board connected to the CPU expansion slot where the CD-ROM drive would be connected.

Considering the fact that people likely to want CD-ROM drives are also the same sort of people who will have fitted hard drives and memory expansions, why has no provision for this been made? I may be stupid, but why not make the CD-ROM drives come with their own expansions slots underneath so that existing boards can be moved there and still be connected to the computer? Boards have been produced for the A500 that enable other boards to be connected alongside (Evesham Micro's Megaboard, for example), so why not use the same idea to enable existing expansion boards to remain connected to the A1200 through the CD-ROM drive?

Also, with the growing number of FPUs being used in A1200s and A4000s, will games manufacturers ever consider producing versions of their games which will make use of an FPU? I would have thought that games with many calculations, such as flight simulators, might really benefit from an FPU. PC games writers bend over backwards to cater for the various PC boards, but the attitude with the Amiga has always been: "If it doesn't come as standard, don't bother writing games for it." So will we ever see FPU games, or 4Mb-only games, on the Amiga? If we did, many more people would buy FPUs and more RAM to play these games, just as they bought the CD32, and the standard of games would rise; but would manufacturers be willing to make the first move?

John Burns
Sunderland, Tyne & Wear

I agree with your first point whole-heartedly – we can only hope a third party manufacturer can step in with some sort of expansion board, as you suggest (you can see a full review of the A1200 CD-ROM drive on page 26).

As to your point about FPUs, I personally can't see many FPU-specific games coming out. Only a small portion of A1200 owners also have an FPU, so there simply isn't the market. This isn't to stop an FPU-enhanced version of a game being sold alongside its ordinary counterpart, as is the case with some serious Amiga software, and that would be no bad thing.

ALL SORTS OF RUMOURS

I am writing to you because, like many other Amiga owners, I am extremely worried about the future of the Amiga. For those not up to date with recent events, Commodore Electronics (based in America) have gone into voluntary liquidation, which *could* mean the end of the Amiga as we know it. All sorts of rumours have been drifting around the Internet lately about who may be buying Commodore and the Amiga.

However, it's not all doom and gloom; there may be a positive side to this. The obvious action to take would be to pack up, sell your Amiga and buy a PC, on the strength that at least its manufacturers will still be in business tomorrow. But what the Amiga needs is fresh talent – someone who care about what happens to it, and isn't just interested in lining their own pockets.

I heard that Jim Drew, DKB, GVP and possibly NewTek may also put in a bid for Commodore. These are the kind of people who *deserve* to own the Amiga, people with a history of making the machine a wonderful thing. What we definitely don't want is some rich corporation, which just happens to have a bigger wallet than someone else, to get its greedy mitts on it!

What I, like many other owners who have just gone AGA, want to know is: where do we stand? I mean, there are in excess of six million Amiga owners out there; what happens to them? Are they just left with dying technology? Will software houses still support the Amiga? *We want to know – now!*

What I urge other Amiga owners to do is *not* to panic and sell your nice new A1200 for a crappy PC – this would only make the situation worse. I personally, and I hope David Pleasance is reading this, won't give up on the Amiga until I know for certain that it is *completely* dead (if it ever is). And I can guarantee that there are a few more people who feel the same way – this is the sort of following the Amiga has.

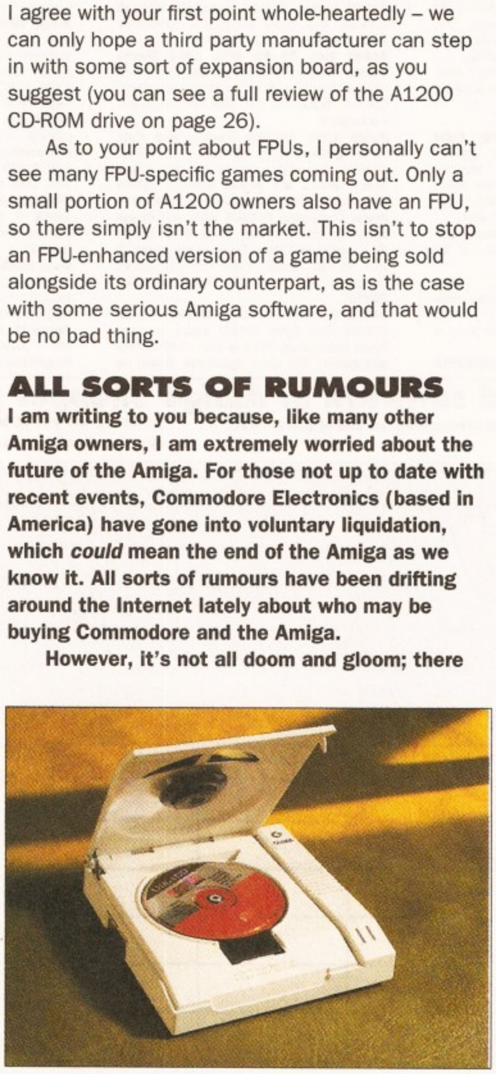
No matter what, it is still the best machine ever to grace the planet, and it's not gone yet.

Matthew Gorner
Radford, Coventry

Not surprisingly, we've been inundated with calls about this. For the very latest about Commodore and the Amiga's fortunes, including comments from top Amiga developers, turn straight to page 4.

You might decry a "rich corporation" buying up Amiga technology, but consider how much more successful the Amiga would become if such a company were prepared to invest heavily in development and good marketing. All areas of the Amiga industry would benefit.

Even in a worst case scenario – and it's one I don't envisage happening because the Amiga is just too good to pass by – where nobody buys Commodore out, and no more Amigas are ever made, that wouldn't be the end of the line for us. As you say, there is an awful lot of Amiga users around. So long as there is, people will continue to make Amiga hardware and software. AS



The A1200 CD-ROM drive (reviewed on page 26). Great machine, but why has no provision been made for the addition of a hard drive?

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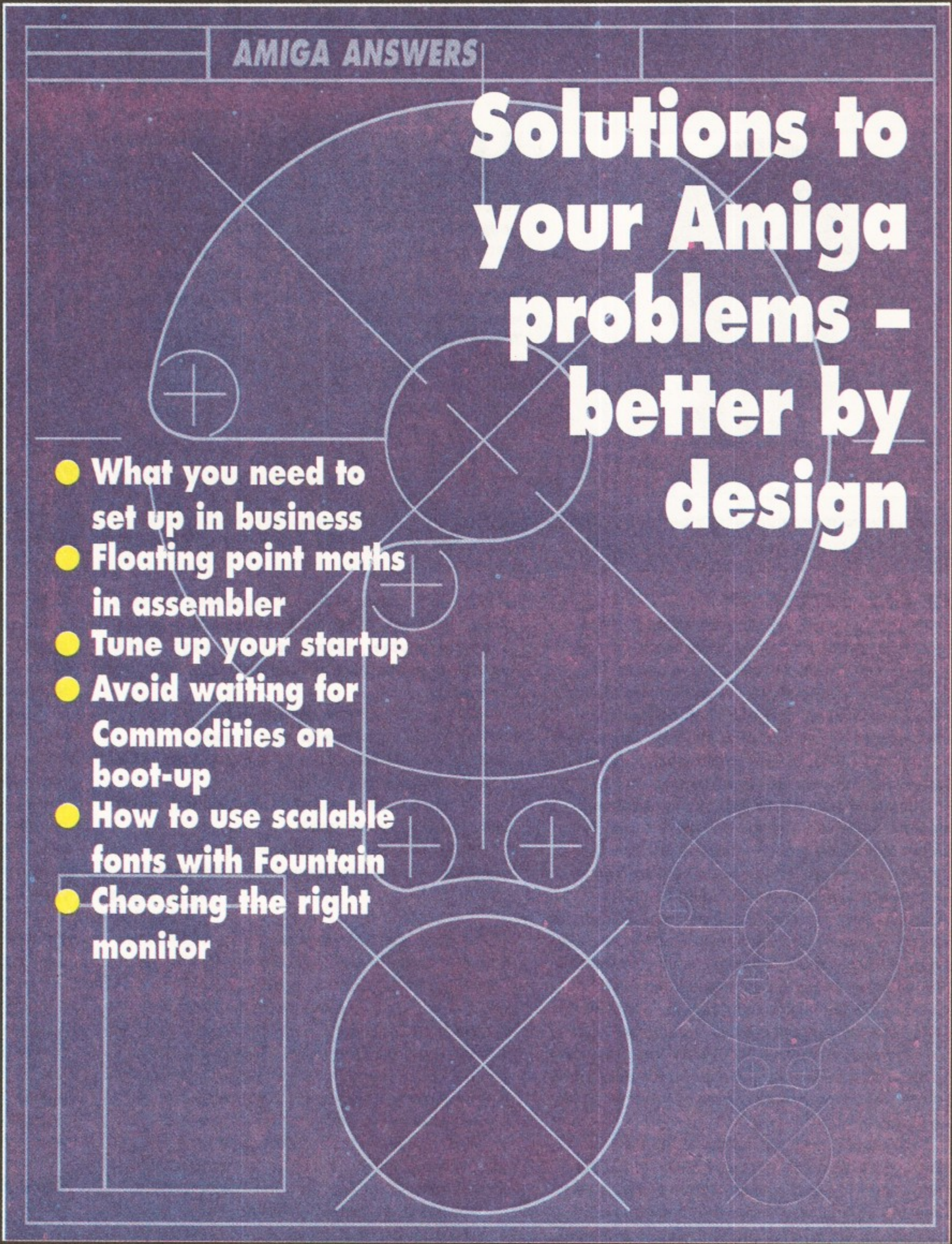
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- What you need to set up in business
- Floating point maths in assembler
- Tune up your startup
- Avoid waiting for Commodities on boot-up
- How to use scalable fonts with Fountain
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NO PROBLEM!



Are you suffering from Amiga problems? Graeme Sandiford and his team will find an answer.

Hello and welcome once again, to the area of *Amiga Shopper* where you can turn to find all the answers to questions concerning your Amiga. It's my privilege, as *Amiga Shopper's* technical writer, to make sure that not one of your problems is left unsolved. Don't worry, we can help – no matter how simple or complex they may be. At *Amiga Shopper* we want you to get the very best out of your Amiga. That's why we devote more space than any other magazine to this indispensable service, so please make the most of it and keep your questions coming in. I will do my very best to find a solution to all your problems.

Don't worry if you come across any unfamiliar terms, just turn to one of our jargon-busting boxes to receive an explanation. The problems are put in a wide context for everybody's benefit. The index on the previous page is your guide to the topics covered this month.

By now, you are probably familiar with our team of Amiga experts. **Mark Smiddy** knows all there is to know AmigaDOS and floppy drives. **Jeff Walker** is our desktop publishing, fonts and printer correspondent. **Gary Whiteley**, is a trusted expert on video applications and graphics. If you have a query about comms, we'll set our communications guru **Dave Winder** on the case. **Toby Simpson** is our code clinician. If you've got problems with anything from C to assembler, try taxing his little grey cells. Finally, we've got a man you can rely on when it comes to operating systems programming – **Paul Overaa**.

Don't be afraid to let all your queries, problems, worries, or general tips and hints come pouring in – they're what we live for. With a good tip you could be a tenner richer. Write to me and I will do my best to sort you out!

IT ALL ADDS UP



The small company that I work for requires a computer to perform a variety of tasks. I was hoping you could advise me on the best choice as we only can afford to buy one computer to do them all. Our absolute top budget is around £1,000, but we would gladly pay less. Above all, the computer must be easy to use.

We need to use it for VAT accounts which must be acceptable to the VAT offices, and for simple profit and loss accounts to tell us our incomings and outgoings. At present we pay an accountant whose first task when he does our accounts is to enter all the information, which has already been put into our accounting books by us, on to his Apple Mac – obviously a very ineffective way of going about things. Having our own computer to put the accounts on to, and then giving the accountant the disk would save a lot of his time and our money. Would our computer have to be an Apple Mac, or could an emulator be used to transfer the information from our disk on to his computer?

We need to use the computer for word processing. As an illustration studio we need a wide variety of fonts and character styles, as well as being able to create many different page layouts. An appropriate printer must be available to print the finished items.

Many things in the office have to be put on to databases. For example, thousands of reference photograph codes and customer information. This must be easily accessible for cross referencing.

Up until now, most computers with the appropriate software (including our present computer – an Amstrad PCW 9512) would probably be able to cope with most of the requests. The real snag, however, is that another part of the business is creating high quality sports videos which require titling and occasional graphics, so we also need to do video titling and frame grabbing. We need to scan artwork (paintings, drawings, photographs) so that they can be reproduced using a suitable printer, or simply handed to our clients in disk form.

I am considering an Amiga, probably an A1200 as it comes highly recommended for video work, especially using the *Scala* software (is this available on other computers, by the way?) and is within our budget. We already have a good quality TV monitor.

So I guess my main questions are:

1) Would an Amiga be able to cope adequately with the above tasks, and if not, what computer would you advise?

2) What accessories (printer, genlock, hard drive) would you suggest?

3) What is the best software for that computer, and where to buy such a computer?

Philip Brown
Westerham

Well, let's forget the computer for the moment. In fact let's forget all the hardware you require and concentrate on the software. (The prices I'm quoting are approximate *street* prices). For your database and accounts requirements you will need nothing less than *Superbase Pro 4*, which costs about £250. *Final Writer* (£75) should fill most of your word processing needs. *Scala MM200* – the professional multimedia program that beats anything available for any other computer – will set you back about another £300. So that's £650 we've spent so far, just on three bits of software.

For frame grabbing you'll need something like *VIDI-12* (£150) or *VIDI-24* (£225) or *VLAB-24* (£335). A colour hand scanner will cost at least £240, but if you need to scan wider than four inches, or if you require proper photorealistic results, then you will require the Epson GT-6500 flatbed scanner (£650). A decent colour printer like the Canon BJC-600 or Hewlett-Packard DeskJet 550C will cost £500. (Software to drive that printer properly will cost £15-£50). A half-decent genlock will cost about £200.

So that's at least £1,100 on the hardware you require. Add the software and we've spent about £1,750 so far, or about £2,300 if we've bought a better frame grabber and a flatbed scanner.

We haven't bought the computer yet. There is no doubt that all this hardware and software will run perfectly well on the A1200 (£289). However you will require much more memory than the A1200 comes with as standard – at least another 4Mb (£200), but framegrabbing and scanning will require 8Mb (£400) or more. You will also require at least a medium sized hard drive, about £200. So that's about £900 on the computer, memory and hard drive.

One of the things professionals normally require is the ability to expand their computer as and when necessary. The A1200 is not very expandable. There is just one expansion port underneath the computer, and once you've got something plugged into it, like memory for instance, then you can't plug anything else into it without first removing what is already plugged in. For this reason I recommend most vehemently that you consider an A4000, which is much faster than the A1200, comes with a hard drive (but you'll still need more memory) and has four expansion slots.

Adding the cost of the computer, memory and hard drive to the costs of the software and hardware you require, we arrive at approximately £3,000-£3,500. Whether you buy an Amiga, PC or Mac, it is going to cost you *at least* this much money to buy all the equipment and software necessary to cope adequately with the tasks you want your computer system to perform. ***Jeff***

CIA B – THE PLOT CONTINUES



1) On page 45 of *AS* 36, in your answer to CIA Plot you indicate that the ROM Sharer places an additional strain on the Amiga. The major portion of my software runs from 1.3 so I have chosen to install 2.04 Kickstart on a sharer. A keyboard control unit seemed safer than a vulnerable switch fitted to the case, so I went for the Power Computing unit. What is the level of extra wear this is imposing?

2) I was advised when I bought the machine to press Ctrl-A-A to clear the screen – does this have the same wear problem, and if so, what is the solution?

3) With some Coverdisk and other programs I get a message to "please insert Workbench in any drive" and "replace volume... in any drive," occasionally followed by a crash. What is the reason and is there any answer to it?

A.R. Stewart

Larnark, Scotland

1) Perhaps the answer could have been a little clearer on this point. The additional strain from a ROM sharer is negligible. The correspondent already had a lot of other gear bolted on to every available orifice. Typically ROM sharers only switch a single enable line on the ROM, and the standby current drain from the entire circuit is probably no more than a few hundred micro amps; a similar drain to that of an LCD pocket calculator.

2) This key sequence, also called the "Vulcan nerve death grip" from Star Trek's Mr Spock. Typically, key switches like these are guaranteed for several million depressions, and, with care will probably outlast the rest of the machine. (If you pressed the key once per second, every second, it could last a month or more).

3) This is a very common problem and easily solved by an extra drive, or preferably with a hard disk. The reason is the software you are trying to run is attempting to load libraries from disk. This extra software is only loaded when it's needed and usually lives on the Workbench (boot disk). Some software will crash if it cannot find the correct version of a library (rather than telling you); assumes a library contains a certain function call; or assumes a function call returns a particular value. This problem often affects software designed for Workbench 2 when it's running with a 1.3 Kickstart. The AmigaDOS utility, ED (sadly) is a good example. ***Mark***

SHORT MEASURE

PRINTERS

I have an Amiga 500 that I have upgraded to Workbench 2 and modified for 1Mb of Chip RAM. I have 2Mb of extra memory mounted in a GVP 120Mb hard drive, plus an external disk drive, a 1084S monitor and a Fujitsu Breeze 100 inkjet printer. The hard drive is divided into two partitions: System (15Mb); and Work (105Mb). In the Work partition I have a games draw, plus things like *Prodata*, *Pen Pal*, *TextPlus*, *DPaint* and *PageSetter3*. And therein lies the problem.

I cannot get *PageSetter* to print to the bottom of the page. I know that there should be a margin of about 13mm, but I cannot get it any closer than about 27-30mm from the bottom edge of the paper.

I am using the standard preferences program with the HP_Deskjet printer driver. This works fine with *Pen Pal* and *TextPlus*, but *PageSetter* does not want to know. I have tried various things, such as changing the page length settings from A4 to Legal, changing the number of lines between 66 and 75, and moving the whole page up and down the paper, but with no success. I have been told that *PageSetter* does not use the Preferences printing program when installed on a hard drive. Is this true, and what can I do to get it printing properly?

D A Thorogood
Dagenham, Essex

The Commodore HP_Deskjet driver that comes with Workbench 2 has a length limitation built into it for printing graphics, that limitation being approximately 10 inches, a hangover from when DeskJets themselves had this limitation. You require a driver that does not have this limitation. Various PD drivers are available – contact a PD library.

Pen Pal and *TextPlus* print to the bottom of the page because they are printing text, not graphics; *PageSetter3* prints everything as graphics, even the text, and it always prints through Preferences in the standard Amiga way. ***Jeff***

500C DRIVER YET?

PRINTERS

I am going to buy a new printer to use with my 1Mb Amiga 500, running Workbench 1.3. I have been looking at the Hewlett-Packard DeskJet range, particularly the 500C. In a previous Amiga Answer you have informed people that, although it is potentially a good printer, a good Amiga printer driver is not available. Is this still the case? Does the DeskJet 500C have the improved print technology, like that of the DeskJet 510? Can any printer be made to work on an Amiga, printers used with PCs for example?

Alex Wallace
Thornaby, Cleveland

Any printer can be made to work with the Amiga provided it has a parallel or serial connection, and provided there is a proper printer driver and associated software for it. A lot of the quality modern printers launched over the past year or so are not supported by the drivers that come with the Amiga (some don't have control panels for example, requiring special preferences programs and other software to control the built-in features), but there are third-party solutions like *Studio Printer Software*, which contains full and proper support for many, many printers, including all Hewlett-Packard DeskJets and LaserJets. Alas, like most modern Amiga software, *Studio* requires Workbench 2 and Kickstart 2 or later, so without upgrading your A500 (or buying a new Amiga), there is little or no point in buying a modern, high quality printer.

The DeskJet 500C does not contain the improved printing technology that features in the 510, but the (more expensive) 550C does, as do the new 520 and 560C models. ***Jeff***

NOT ENOUGH MEMORY

DTP

I am having problems using CGFonts with *Deluxe Paint IV AGA*. I am using CGFonts from both *Amiga Shopper* cover disks and *Amiga Format* subscriber disks and I have decompressed them to floppy disk and run them through Intellifont. But when I try to use them in *Deluxe Paint IV* AGA I get a message telling me that my standard 2Mb Amiga 1200 doesn't have enough memory for this operation! I have tried using an empty two colour low res screen, but to no avail. Please help me with what is hopefully a simple problem.

Paul Stewart
MTMF, RAF Bruggen, BFPO 25

Regarding your problem, perhaps it will come as no surprise to you when I echo your Amiga's message and suggest that you don't have enough memory for the operation? This may not be because your Amiga doesn't have enough memory – on the contrary, it may be because the memory is being used up in other ways. For example, are you booting direct from a copy of *DPaint IV* or are you running it from Workbench? If the latter, what resolution Workbench are you using? If it's anything more than 8 colours and lo-res interlace, then try reducing it. Don't run any other software whilst *DPaint* is running.

I did a quick test and couldn't get *DPaint IV AGA* to use more than 1Mb of memory (with a blank screen), even with a CGFont in use, so I suspect that one (or all) of the above suggestions might possibly help you out. Failing this, I'd suggest that you add more memory to your 1200. ***Gary***

QUICK, QUICK, SLOW

BUYING

I need to add extra RAM to my A1200 in order to use *Wordworth 3* properly – 2Mb is not really enough, and I would like another 4Mb. Price is a big factor, and I am unsure whether to buy a 16-bit 4Mb PCMCIA card or a 32-bit 4Mb trap-door expansion board. With the PCMCIA card I realise there will be a bottleneck in the system with the CPU being 32-bit, but what is the speed difference in practical terms?

Peter Campbell
Cullybackey, Norn Iron

In practical terms, a 32-bit trap-door expansion will at least double the speed of your A1200, even the overall feel will be much quicker, whereas a 16-bit PCMCIA card will actually slow down the A1200 by a small amount, making it feel a little more sluggish than it was before. ***Jeff***

NO USE WHATSOEVER

BEGINNERS

Having thought long and hard about upgrading my ancient Atari ST to a more modern system, I finally decided that Amiga offered a rather better deal than the Mac. Accordingly, I purchased an A1200 from a high street store. My intention was to get used to the operating system before deciding which upgrade path to take. The applications I had in mind were initially advanced word processing (*Protext 6*), low-level business applications and some children's games. I also had it in mind to get involved in video editing at some future time as this relates indirectly to my teaching job.

My initial cause of disappointment was that the Amiga was of no use whatsoever for any purpose other than games. I can't believe anyone would want to tangle with a non-hard-disk

JARGON BUSTING

Partition – part of a hard drive separated off from the rest. As far as Workbench, AmigaDOS and the rest of the world is concerned, a partition is a disk in its own right. Problems do come to the fore when you try to copy data between two partitions on the same drive.

Printer driver – a program that sits inbetween any applications program producing output and the printer. It converts any codes describing text and graphics format into a form suitable for a specific printer. You can sometimes obtain them from the printer's manufacturer or even in the Public Domain sector.

RAM – Random Access Memory, so called because any part of it can be accessed immediately, rather than having to search through from the start of memory to the point of interest. RAM is used to hold programs while they are being executed. The contents of RAM are lost when the power is turned off.

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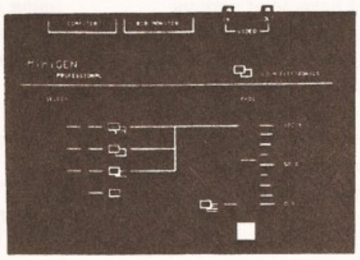
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DEVILISH MATHS

CODING

About five months ago I bought the excellent *Devpac 3*, but I do not have much experience in assembly language and can only use integers in my programs. How do I use decimal numbers for operations in assembly language and perform simple things like addition, subtraction, multiplication and division?

George Hlavac
Bertrange, Luxembourg

The Amiga has a variety of maths libraries available, but basic maths functions can be handled by the routines present in the mathffp library which uses a floating point number format known as Motorola FFP (fast floating point). This library is opened like any other run-time library and using the library routines themselves is quite easy (all the available functions are documented in the Libraries volume of the *RKM* manuals). To add two numbers together, for instance, you load the registers d0 and d1 with pointers to the two FFP arguments, make a SPAdd() function call, and the result comes back in d0.

Unfortunately, there's a snag because you've got to get your numbers into FFP form in the first place. If you wish to actually display them, you also have to convert the FFP forms back into ASCII. There are ASCII to FFP, and FFP to ASCII conversion functions, called afp() and fpa(), in the amiga.lib linker library. The difficulty here is that the functions have C language interfaces, so you have to pass function parameters using the stack. This means pushing the parameters, making the appropriate amiga.lib function call, and then re-adjusting the stack so that any pushed values are effectively removed.

Here's a very simple example that uses the mathffp.library to add a couple of floating point numbers together. If you assemble this, link it with amiga.lib, and then run it under the *Devpac* debugger, you'll be able to see the final floating point sum (provided in a normalised *mantissa plus exponent* form) stored in the result string:

Paul

```
LINKLIB         MACRO
                move.l      a6,-(a7)
                move.l      \2,a6
                jsr         \1(a6)
                move.l      (a7)+,a6
                ENDM

CALLSYS         MACRO
                LINKLIB _LVO\1,\2
                ENDM

                XREF        _afp
                XREF        _fpa

NULL            EQU         0
_AbsExecBase    EQU         4
_LVOOpenLibrary EQU         -552
_LVOCloseLibrary EQU        -414
_LVOSPAdd       EQU         -66

start           lea         math_name,a1 pointer to library name
                lea         result,a2    just for a2 string
visibility
                moveq       #0,d0        any version will do!

openlib         CALLSYS     OpenLibrary,_AbsExecBase
                move.l      d0,_MathBase save returned pointer
                beq         exit         did library open OK?

                ; mathffp library open OK
                ; if we get to here

convert_2       pea         arg2         place arg2 on stack
                jsr         _afp         convert to FFP
                addq.l      #4,sp        remove pushed arg2
                move.l      d0,d2        arg2 in d2

convert_1       pea         arg1         place arg1 on stack
                jsr         _afp         convert (arg1 now in d0)
                add.l       #4,sp        removed pushed arg1

add_args        move.l      d2,d1        copy arg2 to d1
                CALLSYS     SPAdd,_MathBase  add d0 and d1 FFP nos

backtoascii     pea         result       push dest address
                move.l      d0,-(sp)     push real FFP sum
                jsr         _fpa         convert to ASCII
                add.l       #8,sp        remove pushed args

                ; At this point the normalised ASCII
                ; form of the FFP sum will have been
                ; placed in the result string as the
                ; number +.6713003E+1

                move.l      _MathBase,a1 library to close
                CALLSYS     CloseLibrary,_AbsExecBase
exit            clr.l       d0
                rts

_MathBase       ds.l 1
math_name       dc.b 'mathffp.library',NULL  library name
arg1            dc.b '2.502',NULL        just example numbers
arg2            dc.b '4.211',NULL
result          ds.b 16                  space to store result
```

installed WB3 system, and further, the word processor (*Wordworth*) was unreadable on a TV screen. However, this was no big deal as it merely confirmed the need for the upgrade path I was prepared to make anyway. What I needed was an 85Mb hard drive, 4Mb of RAM... and a dedicated Commodore 1942 hi-res monitor. Only now of course I've found that no such monitor exists or is likely to in the near to middle future!

My point is this – at present it seems to me as if my original decision to buy an Amiga over a Mac was misguided. What is the advantage of cheap access to video or advanced graphics if I can't represent those images on screen other than with a cheap monitor not really designed for the job? I also don't like the idea of word processing for several hours at a time on anything less than a hi-res monitor (such as the old Atari monochrome I am using at the moment). Perhaps I am being too hasty in these opinions – what do you think?

Mr P. Scott
Warminster, Wilts

Yes, Mr Scott, I do think you are being too hasty. First off, the 1942 monitor certainly *does* exist! And there are a number of other monitors which you could choose instead – such as the various Microvitec CubScan models, or even an ordinary RGB monitor such as the Commodore 1084 or Philips 8833? The latter will probably appear to flicker at first, but you'll soon get used to this. I'm sitting here typing this reply using Transwrite on a very old Commodore 1081 monitor and it works fine for me! A little careful colour choosing can make a great difference to the way that your screen image looks.

I'd half agree with you about the A1200 only being useful for games. That's why more serious Amigas also exist, such as the A4000/30, and that's why there's a big price difference between the two. But I'd definitely agree that you should add more memory and a hard drive, as well as a dedicated monitor, all of which will, of course, cost money! I'd also add an external floppy drive to your wants list – you'll be surprised how useful it will turn out to be.

I think that with a little time and effort, and some open-minded honesty, you'll start to appreciate just how versatile your new Amiga is. Of course it won't be able to do everything as it stands – you already know that you'll have to expand it – but give the machine a break. For a low-cost domestic computer you'd be pushed to get better value for graphics, animation and video use wherever else you look. But it isn't a Mac substitute, and personally I'd say it is a mistake to compare the two. Compare the Mac with the Amiga 3000 or 4000 if you like, but in my opinion the A1200 and modern Macs are rather different beasts which are aimed and priced for completely different markets. ***Gary***

TUNING YOUR STARTUP

GENERAL

I would be grateful if you could tell me what startup-sequence I should have on my GVP hard drive. When I start my computer I have noticed that it returns "Pure bit not set" and some programs cannot recognise the DH0: partition. I have Kickstart 1.3 and 1.2 on a ROM sharer.

Philip Hewitt
Rochdale, Lancs

It seems a little pointless to have 1.2 and 1.3 on a ROM sharer unless you want to run some *very* old games. A better solution would be to throw away 1.2 and replace it with a 2.04 ROM. The system will not autoboot the hard drive if 1.2 is active and that may be why some software does not recognise it. The message "Pure bit not set" is being generated by one of the *resident* commands in your startup-sequence and it is difficult to know which one. This should not be a problem, it just means one of the commands currently in the C directory is not suitable for resident treatment (not pure), or its pure bit has been cleared.

I noticed you are still using the old 1.3 startup-sequence and this is hampering things a bit. Here is a specially modified version that I recommend to anyone running Workbench 1.3 from floppy and hard disks. This is less than two-thirds the size of the original and does everything the original version did in about six seconds on my A3000!

```
C:SETPATCH >NIL:
C:ADDBUFFERS DF0: 22
CD C:
Echo "Phillip Hewitt's Amiga Shopper Superboot Disk"
BindDrivers
SYS:System/FastMemFirst
SetClock Load
FF >NIL: -0
Resident C:Resident PURE
Resident CLI L:Shell-Seg SYSTEM PURE ADD
Resident C:List PURE
Resident C:CD PURE
Makedir ram:T
Makedir ram:Env
Makedir ram:Clipboards
Assign T: RAM:T
Assign ENV: RAM:Env
Assign CLIPS: RAM:Clipboards
Assign KindWords: DH0:Kindwords ; this line...
Assign SuperFont: DH0:Kindwords        ; and this one
Assign Dictionary: Dh0:Kindwords ; and this too are specific!
Mount Speak:
Mount Aux:
Mount Pipe:
Mount NEWCON:
SYS:System/SetMap GB
Path RAM: C: SYS:Utilities SYS:System S: SYS:Prefs add
LoadWB delay
Endcli >NIL:
```

I've taken the liberty of adding your own assignments for *Kindwords*. Any other readers can use this startup-sequence for a 1.3 Workbench disk by removing them and adding their own. The secret speed of this startup is an effect of grouping things together. Keep like with like, and you'll get the best performance. ***Mark***

SOUNDS LIKE TROUBLE

BUYING

I'm thinking of buying an A1200, but I'm not sure which sort to buy. I want to play games, obviously, but I'm also into demos and so on. I've heard of these bulletin boards – they sound quite interesting, and I might like to do a little hacking.

Could you tell me what sort of Amiga would be best for me, and any other equipment I might need to get set up? Please try and list everything I will need as it is a matter of urgency.

Michael John Guy
Bordon, Hants

Erm. Well there's only one model of A1200, called the A1200 funnily enough. If you want decent sound, then you'll need something to plug the Amiga's sound outputs into – a Hi-Fi, or a stereo monitor with speakers, or portable radio/cassette player, anything like that. To access bulletin boards you'll need a modem and communications software, plus a phone line of course, but as hacking is an illegal activity, very easily traced these days and punishable with severe sentences, I would not recommend it as something you should even think about experimenting with. ***Jeff***

CAUGHT (NOT) IN THE ACT

SOFTWARE

I do not think you have answered Steve Edward's question re *PageSetter3* (issue 36, p39). I use *PageSetter3* and I have ToolTypes set to COLORMODE=BW. The program still boots in colour and, like Steve Edwards, I have to select the Black & White option from the Preferences menu to operate in that mode. This is no great problem, but something I do not understand.

Philip Goodwin
Welton, Northants

Blush. OK, I admit I didn't actually try it. I just repeated the information from the *PageSetter3* manual because I know this ToolType works with both *ProDraw* and *ProPage*, and I assumed it was a problem to do with actually setting the ToolTypes. But, having just tried it, you are absolutely correct, it does not work. Doesn't work from the command line either. So it's a bug in *PageSetter3* by the looks of it. The funny thing is I swear that when I reviewed *PageSetter3* I distinctly remember having it load in black and white mode because that opening information requester looked so weird in just two colours. Of course that was on a Workbench/Kickstart 2 machine, and I'm using Workbench/Kickstart 3 now. Hmmm, if I ever remember how I did it, you'll be the first to hear about it. ***Jeff***

SUPRAMODEM'S SPEED

BUYING

I am interested in buying a modem, that I would use mainly for downloading PD from Bulletin Boards. If I bought a SupraModem 2400 Plus, how long would it take to download a compressed disk of around 1/2Mb? How much difference does the compression facility make? What is Hayes compatibility?

Andrew Bainbridge
Darlington, County Durham

My advice is to go for the fastest modem you can afford if you are mainly going to be transferring files of such a large size. Modems are getting faster all the time and prices are dropping; don't be fooled into thinking a relatively slow modem is a bargain just because it is £50 cheaper than the faster model. As an example, a SupraModem 2400 Plus can achieve a maximum transfer rate for binary files of around 270 bits per second. This equates to an approximate download time of 30 minutes for a 500K compressed file. However, using a modem that features V32bis and V42bis such as the Hayes Optima 144, the same 500K archive would take just over 5 minutes, assuming an average transfer rate of 1600bps.

Depending on where you are calling, and at what time, you can see how expensive that extra 25 minutes per download will soon become! Compressing a file makes it smaller. Simple as that. So the difference is that it takes less time to download an archive that is 500K than it does for one that is 750K. Uncompressed ASCII (text) files will transfer at a much faster rate than if they were compressed. However, the advances in data compression techniques, such as V42bis which are built in to many modems, mean that there is little difference in downloading a larger file at a faster rate then a smaller one slower.

Hayes compatibility refers to the Hayes Command Set. This is the set of commands that modems use to communicate with your computer. Hayes commands begin with the prefix AT, and an example would be ATDT followed by a telephone number; this tells the modem to tone dial the specified number. I covered the Hayes command set in some detail in these very pages a few months ago in fact! ***Dave***

PENNY A SCAN

BUYING

I want to buy a scanner. My main use would not be for full-page scans – I want it to scan coins, both for insurance purposes and to aid in the detection of new varieties. Obviously, a hand scanner is not an option here. I did have a Sharp JX-100, which scans an area of about 4in by 6in, but the maximum resolution of 200 dpi is not enough.

Are there any scanners designed for hobbyists and which can scan small items?

JARGON BUSTING

Startup-sequence – a program which is executed every time the Amiga is switched on and after every reset. It sets up the system so that it is usable from Workbench, and may be customised by those who have unusual hard or software requirements.

ROM – Read Only Memory is used to store absolutely essential programs, such as Kickstart and many of the library routines. These do not have to be re-loaded each time the Amiga is switched on because ROM retains its contents without power. No new information can be written to ROM, hence the name Read Only.

BBS – Bulletin Board System. The name comes from the American College bulletin board (the cork and drawing pins type) which is traditionally regarded as a meeting and trading place.

Kickstart – the central part of the Amiga's operating system; it's now held in ROM. This means it is available for immediate use as soon the machine is switched on. The Amiga 1000 originally had its Kickstart on floppy disk.

Graham Keellings
Munich, Germany

Using a colour hand scanner in greyscale mode you will be able to scan at 400 dpi, which should provide a screen-sized graphic of most coins. Note that I am talking about a colour scanner in greyscale mode, not a monochrome or "256 greyscale" scanner – these devices will reduce 400 dpi mono scans to what is the equivalent of a 100 dpi greyscale, and you have said that even 200 dpi is too low a resolution for what you want to do.

If you cover the coin with a thin sheet of glass (a picture frame glass for example), it should be perfectly possible to run the scanner over that and still pick up the relief of the coin underneath, and with some rudimentary image processing you should be able to enhance the edges in the graphic to make the relief stand out further.

Scanning coins in colour is never going to be very successful because the metal will reflect almost all of the light, which will result in the graphic being covered in (usually) an overall green sheen plus small red and blue aberrations where scratches and reliefs on the coin have deflected the angle of the reflected light.

Alternatively, photograph the coins and then scan the photographs, which is how these things are normally done. ***Jeff***

BJ OR DJ?

PRINTERS

I am using *PageSetter3* with my A1200 and Star LC-20 printer. I want to upgrade my printer and am thinking of buying either the Canon BJ-10sx or the Hewlett-Packard DeskJet 310, which has a colour option. Which of these would you recommend, or any other for around £200. Colour would be nice, and I'd use it just for structured clip art – I don't expect photorealistic quality.

M R Sutton
Swansea

Sounds like you've already made your mind up to me. If you want colour then the DeskJet 310 is certainly the best value option around at the moment, although you will have to invest in *Studio Printer Software* (£50) to get a proper driver and support for the features of that printer that Workbench does not support. You should keep in mind that colour printing is a more expensive pastime than mono printing – ink costs are more, media costs are more (the wet ink does not print well on to ordinary bond paper), and colour pages take three times longer (or more) to print than mono ones.

The Canon BJ-10 has proved to be a very popular mono printer indeed, and it has stood the test of time. Also in its favour is the fact that you can get a disk of Amiga drivers and support programs free from Canon. Rather then dive straight for the BJ-10sx, investigate the BJ-200, which features much faster and much better printing technology than the BJ-10sx, and is selling for under £300. ***Jeff***

ED OR EDIT

GENERAL

I've been working on a project to automatically unarc LHArc files using a script. However, I feel that I need to use the EDIT command to alter the script using commands from a pre-written file. Being unable to find any detailed instructions on using EDIT in this way, I was hoping the command could be covered in *Cracking the Shell*.

Phill Beard
Basingstoke, Hants.

Detailed instructions on the use of EDIT appear in *Mastering AmigaDOS 2* Volume 1 (many examples) and *Mastering AmigaDOS 3 – Reference* (both published by Bruce Smith Books), but the only way to get the best from this command is to use it. However, if the editor agrees you should see an EDIT tutorial in the next few issues. In the meantime you might like to consider the strategy you have employed in the existing script. Although you have not given details, I doubt there is any need to use EDIT at all. There is always more than one way to crack a nut; and the most obvious one is not always the best. Why not send me a copy of the program and a list of what you are trying to achieve, and I'll see if I can come up with a solution. ***Mark***

PROPAGE WON'T WORK

SOFTWARE

I have installed *ProPage 4* on to my hard drive, but when I try to type text (following the tutorial) the machine throws up a requester asking for a CGFonts disk. If I try to import text or graphics I get a requester saying that the filter could not be found, even after selecting the filter from the Preferences menu, as shown in the manual.

I intend to fit a 4Mb expansion board. Will this cure the problem, or is there a bug?

R McLaren
Pennyland, Bucks

No, it's nothing to do with memory shortage, these are the classic signs of a program not being installed properly. You haven't given me many clues, so I am going to guess that you installed *ProPage* to one part of your hard drive, and then at a later date moved the *ProPage* drawer elsewhere.

I recommend that you re-install *ProPage* from scratch. First delete the entire *ProPage* drawer, and in the S: directory delete the following *ProPage* preferences files:

- fontsize.pp
- genielist.pp
- PPage.DFLT
- PPage.INI
- PPageFilters.dflt
- prevfiles.pp

Check your user-startup file and remove any assigns that the *ProPage* installation has made. (There should be one for Spell: and possibly one for CGFonts:, although your problems suggests these assigns have not been made). Then re-install *ProPage 4* to the exact place you require it to be on your hard drive. Once installed, do not drag the *ProPage* drawer elsewhere. ***Jeff***

DPAINT AGA REVISITED

SOFTWARE

In issue 33 (p47), Jason Hardy asked how to access the AGA screen modes from an auto-booting DPaint-AGA disk. I had exactly the same problem. Your reply was a little misleading. What you actually have to do is copy SetPatch from the C directory of the Workbench disk to the C directory of the DPaint disk, then add the following line as the first line in your DPaint-AGA disk's S:startup-sequence file:

```
C:SetPatch QUIET
```

This way you'll be able to access the AGA screen modes.

Nathan White
Walsall, W Mids

Thanks for that, Nathan. But at the end of the day would it not be much simpler to boot from a full and proper Workbench and run *DPaint* from its own disk by double clicking its icon? Getting rid of this having to make auto-booting disks hassle has got to be worth the price of a second floppy drive, hasn't it? ***Jeff***

CRUNCH CRAZY

SOFTWARE

I use the *Wordworth 2* and *Final Writer* word processors on my 6Mb A1200 with 250Mb hard drive. Can I install crunchers on the word processors so that if I come across a packed file I can unpack and print it with the word processor? I have bought libraries of crunchers from a PD library – *Powerpacker, LHA, Crunchmania* and so on. There are different versions of *Powerpacker*. Do you need a certain version if a file has been packed with that version, or will the most up to date version unpack it?

A Jones
Belfast, Norn Iron

I think what you are asking is can you make your word processors automatically unpack a packed file? And the answer is yes, but only certain types of packed files. There is a shareware program called *Powerpacker Patcher* which, after being run, will intercept any system call to load files and will automatically unpack the file before passing it to the program which requested the load. From its name you can guess which type of packed file it works with.

Some of the earlier versions of *Powerpacker* will not unpack files which have been packed with later versions, but the most up to date version will unpack any file that has been packed with any version of *Powerpacker*.

You should understand that some programs do not behave properly after being packed. If a packed program does strange things or crashes, then reinstall the original unpacked version – unpacking the packed version is not a solution because the damage will have been done already. ***Jeff***

NON-PRINTING FILES

PRINTERS

In *Amiga Shopper* Issue 33, you gave the impression that I could print the contents of all the files on a disk using:

```
1>DIR >PRT: DF0: ALL
```

The problem is I can't! All I get is the names of the files on the disk plus a change of font on the printer. If I use:

```
1>COPY >PRT: DF1: ALL
```

the printer prints "COPY: required argument missing". After some playing around I came up with:

```
1>COPY ALL TO PRT: DF1:
```

The COPY command appeared to work, but I got nothing on the printer. Can you help, or did I just get the wrong impression.

E. Tilling
Grimsby, South Humberside

I can understand your confusion, the offending line reads as follows: "For example you can use re-direction to get a hard copy of all the files on a disk like this." I can understand how this confused you, but the command is working exactly as described. The DIR command just lists filenames: you wouldn't normally use it to *type* a file's contents which is what you want to do. As to the change of font on your printer, I can only assume this has something to do with the way your PRINTER preferences are set (probably for Letter or

JARGON BUSTING

Compugraphic fonts – rather than a simple bit-mapped image of each character, which take on a more jagged appearance with magnification, a Compugraphic font represents the shape of each character within the font as a mathematical equation of the outline. Consequently, as the magnitude of the character is varied in printing, no information is lost and the result always looks smooth, as the final image is always printed at your printer's highest resolution.

Typeface – all sizes of a particular type family and style, eg Times Italic, Helvetica Italic, Courier Bold.

ASCII – American Standard Code for Information Interchange. It is the data storage method commonly used when we type text files and enables data to be exchanged between different computers.

Scanner – a device which can be used to convert an image on paper into a digital form suitable for the computer. The digital image can then be used in a paint package such as *Deluxe Paint*. They usually come in two forms: as hand scanners; or as flatbed which can handle larger images.

something similar). The PRT: device performs certain translations – as defined by PRINTER Preferences – before the text is sent to the printer.

Your idea for using COPY was along the correct lines, although the syntax is a little backward. A good idea would be to ensure all the files you want to print are in a plain ACSII format (you'll have to do this from your word processor) and save them with a filename extension like .ASC. Once this is done you can print the entire contents of a single directory (searching the whole disk hierarchy is more complex) like this:

```
1>COPY DF1:#?.ASC TO PRT:
```

Mark

BACKUP TIME?

GENERAL

1) When I placed some of the Commodities utilities in the WBStartup drawer and reboot the machine, a requester appears saying there are five programs still running, so I just switch off. Does it affect the computer in any way, and is there any way around this?

2) I don't have a battery-backed RTC, but save time and date to software. When I reboot I always get an earlier date unless I copy a disk, then the date is updated. What's going on?

3) Is there any hardware to connect to the Amiga that will allow sound/voice operated control?

J.H. Wilkins
East Cowes, Isle of Wight

1) Yes. There's a little known Tooltype only used by Workbench which specifically combats this problem. Just use Get Info for the program in question and enter a new Tooltype, DONOTWAIT, in capital letters. Save the icon information (repeating for all the programs in the WBStartup drawer) and hey presto! Switching off when something goes wrong does not hurt the machine, but it's a bit violent; a soft reset (CTRL-A-A) is usually enough.

2) I'm not sure exactly what you're getting at here, but I suspect the effect you are noticing is the automatic date stamping on a disk. Every time you write something to a disk, the current date and time are stored with the file and in a special place in the root directory (disk last modified). This date is always read from the boot disk and is used to set the internal time in the absence of an RTC.

3) Not that I'm aware of. The idea has been tried, with varying degrees of success, on a number of platforms over the years. The technology exists to do it; the problem is it still costs a fortune. One technique works as follows: During programming, each *word* has to be sampled, analysed and stored in memory. In operation a *command* is sampled, analysed and compared with the stored *vocabulary*. This takes a fair amount of processing power and a lot of non-volatile memory; the exact values are difficult to quantify, but as quality/reliability increases, so does cost. ***Mark***

WHAT'S THIS RAD THING?

HARDWARE

I have an A500 Plus, 2Mb of RAM and an external floppy drive, which I have owned for two and a half years. Can you tell me to what practical use I can put the RAD: device?

Chris Mickley
Norden, Lancs

The RAD: device is a *recoverable* RAM disk. This means that anything stored in RAD: will survive a *soft* or *warm* re-boot – or pressing Ctrl-Amiga-Amiga in other words. As RAD: is actually memory, files are stored and retrieved much more quickly than with floppy drives, so one use is to simply speed up file handling, and because RAD: survives a soft re-boot you can be fairly sure (but not 100 per cent sure) that if the machine crashes, any data in RAD: will still be there after re-booting.

Another use is to set-up RAD: so that the Amiga boots from it rather than from your system floppy disk in order to speed up booting times.

The down side of RAD: is that the amount of memory designated for it will be lost to the system for as long as RAD: is active, so it's not really an option for people with only a little memory.

There are three PD/shareware recoverable RAM disk devices – VDO:, RRD: and Stat-RAM – which are *dynamic* recoverable RAM disks. This means that although you specify a maximum amount of memory for the device to use, only as much as is being used is actually used, the rest being available to the system if required. Any PD library should be able to supply you with these; Stat-RAM V3 is the most modern and fully featured of the trio, and it is also by far the easiest to install. ***Jeff***

FOUNTAIN

GENERAL

I am a fonts fanatic, using my 2Mb A600, which I have owned for two years, for video titling with *DPaint* and *Scala 500*. Try as I might, I cannot get *Fountain* to run. Even with all known assigns in the user-startup file, it will not search DF1: for fonts.

Using a cut-down Workbench in which I included *Fountain* and Fonts, it refuses to load, saying that the file "_bullet/if.fnt" is wrongly installed, even though it is present on the same disk in the "_bullet" drawer inside the Fonts drawer.

Do I need *Fountain*? If not, how can I use PD Compugraphic fonts in my *DPaint* program for video titling? Or any scalable fonts for that matter. Help!

J Murgatroyd
Sunderland

Yes, you do need *Fountain*, and this is how it works. After running *Fountain* (from any old disk, it doesn't have to be the disk you boot from) you must direct it to the source of the outline fonts by using the gadget at top left labelled Outline Font Source. Click the little square button to get a file requester, ensure that the disk containing your CG fonts is in DF1:, and then select drive DF1: and the CG font of your choice, which will normally have a .lib or .type file extension.

After clicking OK, *Fountain* will add that font to its list of source typefaces. You then need to click on the name of one or more fonts in that list, a little + sign will appear to the left of the name, indicating that the font is selected, and then click the Install Marked Typefaces button. The selected font(s) will then be copied from the disk in DF1: to the SYS:Fonts/_bullet_outlines drawer. This is where CG fonts must be installed for Workbench, and any program that uses Workbench CG fonts (like *DPaint* and *Scala*), to be able to use them.

If there is not enough room on your system disk, then you must make room. If you cannot make room, and because CG font files are so large I concede that it is very difficult to make room, then your only recourse is to buy a hard drive. ***Jeff***

FISHY PM

GENERAL

I'm writing about G Fish's letter in *Amiga Shopper* issue 36, Amiga Answers. Mr Fish was complaining of a problem on the Amiga 1200 with *DeluxePaint 3* installed to hard drive, printing to a Citizen Swift 9 Colour. You thought the *Citizen Print Manager* installed to hard drive might be the problem, and furthermore you suggested that *Citizen Print Manager* appears not to get on too well with Kickstart and Workbench 3.

This is not the first time I have read of this printing problem between *DeluxePaint* (versions 3 and 4) and Citizen's *Print Manager*. I can't test *DeluxePaint3* as that went when I sold my A500, but I bought *DeluxePaint 4* and have experienced a similar problem to the one Mr Fish was having, so I thought I had better write in with the solution.

Citizen's *Print Manager* works perfectly with Workbench 3. The problem lies in the installation program; it installs to the wrong place, so once it is installed on your hard drive, open the Devs drawer, then the Printers drawer, and then drag the CitizenPM drawer into the Printers drawer. Run Citizen Print Manager as normal, and *DeluxePaint 4* prints beautifully. Perhaps *DeluxePaint 3* will too. By the way, *Wordworth 3* works very nicely with this set up as well.

C Dalton
Northolt, Middlesex

Hmmm. There is no earthly reason why *Citizen Print Manager* should go into the the Devs/Printers drawer. That's where standard Amiga printer drivers go. The Citizen *Print Manager* program is not a standard Amiga printer driver, it is just a program like any other program, and the drivers that are supplied with *Citizen Print Manager* are not standard Amiga drivers, they are a special type of driver that work only with *Citizen Print Manager*. But if you say your solution works, I suppose that is all

that matters, and thank you for sharing your solution. ***Jeff***

CG TO TYPE 1

DTP

***PageSetter 3* comes with only one CG font so I bought two disks of PostScript Type 1 fonts from a PD library. I am supposed to be able to convert these fonts to CG format with the *FontManager* program that comes with *PageSetter 3*. I have tried and failed to convert them. How do I do it?**

John Gamon
Etwall, Derbys

After running *FontManager*, click on the disk icon to select the source directory (where your Type 1 fonts are stored), and then in the list that appears in the left hand window select the PFB file of the font you want to convert. The associated AFM file for the font must also be there, but it is the PFB file you select. In the right hand window there should be listed the current contents of your CGFonts: directory, the destination directory to put it another way, so make sure your CGFonts disk is in one of your drives. After selecting the PFB file, click on the icon at top left that looks like a page of text pointing at another page of text, and the conversion process will begin.

My copy of *PageSetter 3* came with a lose, single sheet of instructions for *FontManager*, entitled Adobe Type 1 Font Support. ***Jeff***

PAGESETTER 3 PERHAPS?

BUYING

I want to start doing DTP work on my A1200, to which I have added a second floppy drive and a 2Mb PCMCIA card. I have heard that *PageSetter 3* is quite good for around £50. I would like to take pictures and scan them into my computer so I can print them along with text. Is *PageSetter 3* worth buying, and what scanner and software would I need to do this kind of operation?

Iain Rigby
Brighton

PageSetter 3 is the entry level DTP program for the Amiga. This means that it is the DTP program that costs the least, contains the the fewest features, and comes with the smallest manual and the least number of *free* fonts. But it does not mean that it requires less memory than a proper DTP program. DTP is DTP, and what DTP does best is gobble up memory. Your 4Mb will be enough to be going on with, but the 16-bit PCMCIA memory is going to slow down the speed at which *PageSetter 3* runs, so you should consider buying a 32-bit trap-door RAM expansion.

PageSetter 3 is excellent value at £50 and the perfect way to dip your toes into the Amiga desktop publishing pond, but what you must understand is that when one day you suddenly start running out of memory; when you suddenly start wanting to do things that *PageSetter 3* cannot do; when,you get fed up with how long it takes to load files, to print pages, and to move around a document – that's the day you need a bigger and faster Amiga, and a more professional DTP program. Some people find that *PageSetter 3* is all they will ever need, others lose faith in it after only a few weeks.

As for scanners, buy the cheapest one you can find and you will get the cheapest looking results. If it is photographs you intend scanning, then one of the colour hand scanners is the least you require because mono hand scanners do not make a particularly good job of scanning anything but mono text and line art (see the Scanned and Delivered article in issue 37 – page 62 for back issues). The various colour hand scanners each have their pros and cons – check out issue 32 for a full roundup and buying advice. Note the memory requirements mentioned in that article. The Power Colour scanner has been upgraded since then, so watch these pages for an update review soon. ***Jeff*** AS

FILL IN AND GET US TO ANSWER YOUR QUESTIONS

If you send in a question for the Amiga Answers experts, please fill in and include the form below (or a photocopy if you don't want to cut up your magazine). And please, also make sure that you include all the relevant details – version numbers of software and so on – so that we have the best chance of helping you. If you have several questions in different fields that should be addressed to more than one of our experts, please send in your queries on *separate* forms.

Send your form and question to: Amiga Answers, *Amiga Shopper*, 30 Monmouth Street, Bath, Avon BA1 2BW.

Name: ______________________

Address: ______________________

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Your machine:

A500 ❑ **A500 Plus** ❑ **A600** ❑ **A1000** ❑ **A1200** ❑

A1500 ❑ **A2000** ❑ **A3000** ❑ **A4000** ❑

Approximate age of machine: __________

Kickstart version (displayed at the "insert Workbench" prompt)

1.2 ❑ **1.3** ❑ **2.x** ❑ **3.x** ❑

Workbench revision (written on the Workbench disk)

1.2 ❑ **1.3** ❑ **1.3.2** ❑ **2.04/2.05** ❑ **2.1** ❑ **3.0** ❑

PCB revision (if known). Do not take your machine apart just to look for this! __________

Total memory fitted (see AVAIL in Shell for Workbench 1.3) __________

Chip memory available (see AVAIL in Shell) __________

Agnus chip (if known) __________

Extra drive #1 (3.5in/5.25in) as DF__: Manufacturer __________

Extra drive #2 (3.5in/5.25in) as DF__: Manufacturer __________

Hard disk: ____Mb as DH__: Manufacturer __________

Extra RAM fitted – type, size in Mb and manufacturer __________

Details of any other hardware which could help us to answer your question:

____

____

____

Now, use this space to describe your problem, including as much relevant information as possible. Please continue on a separate sheet if necessary.

____

____

____

AS 39

Straight Talk

R Shamms Mortier brings you another interview with one of the top Amiga industrialists – John Botteri, President of Digital Creations Inc.

Digital Creations started out doing games conversions for Electronic Arts, one of the very first companies involved with the Amiga. I met up with John Botteri, the President of Digital Creations, to talk about the success of the company since its creation in 1985.

What is Digital Creations' corporate history?
Digital Creations was originally created in early 1985 by John Botteri, Randy Jongens and David Porter, along with a couple of other partners who have since moved on. We were all friends and had all met in college. Before starting Digital Creations we had worked together in another company that developed software on a contract basis for many of the entertainment companies in the early 80s.

Why did you choose the Amiga platform to develop for?.
When we first started Digital Creations, we were doing contract work for Electronic Arts doing game conversions. Electronic Arts, as you will recall, were one of the first companies involved with the Amiga. We were introduced to the Amiga there. We also did two of the very first games ever for the Amiga: *One on One* and *Seven Cities of Gold*. These were *very* fast conversions and were available the day the Amiga first started selling in the U.S. Once we had successfully completed several contract programming jobs, our goals and ambitions began to change. We wanted more for the company and thought that the best way to get there was to produce our own products and distribute them ourselves.

This was at about the same time the Amiga was being launched in the U.S. – the end of 1985. We took a look around the entire software market and decided to take a chance on the Amiga because we honestly felt that far and away it was the best computer on the market. Since the Amiga market was a new one, and so were we, we felt that we could grow as the Amiga market grew. We also felt that with the right kinds of products, we could become a "big fish in a little pond rather than a little fish in a big pond" which would have been the case in the IBM or Apple markets.

What was Digital Creations' first marketed product?
The first product that we produced ourselves was a "desktop accessory" package called *GIZMOZ*. This was in early 1986. It performed very well in the U.S. market at a time when everyone was very hungry for good software to use on a brand new machine. *GIZMOZ* helped to fill that niche. Our next product was called *Digital Link*. This was a communications product.



"Greg Gorby of ADSPEC saw DCTV and realised the potential it had. He put the support in his products and we now work closely at times."



Digital Creations was originally created by John Botteri, Randy Jongens and David Porter. They had all previously worked as software developers.

Our next product was a paint package that worked in every possible mode on the Amiga 1000 including HAM. This was actually the first paint package that could do this. We began showing it in preliminary forms at Amiga shows around the U.S. in the middle of 1986. During this time *DPaint* from Electronic Arts was already the de facto standard, but it didn't work in HAM and ours did. Well the boys at Electronic Arts got wind of what we had and came looking. After they saw it, they made us an offer we couldn't refuse and bought the rights to what quickly became *Deluxe Photo Lab*. They then promptly buried it in their line card and forgot about it. Unfortunately, it was rushed to market and then not promoted the way we would have liked.

What about your work with an Amiga genlock?
Interesting you would ask that next! It was about the time we were selling *Deluxe Photo Lab* to EA that we began the SuperGen project. Actually there's a really neat story behind the SuperGen. In 1985/86, we were located in an industrial office park with a company called Progressive Image Technology. At that time, they were working on various computer and video products of their own design. We had some of the first Amigas in the world because of our work with Electronic Arts and Amiga, so we showed an Amiga 1000 prototype to Progressive Image. Our original Idea was to have them create a memory card for the machine. But they had other ideas! Within a couple of months, they created the first prototype SuperGen! We struck a deal to be the exclusive distributor for Progressive Image products and started working together to bring the SuperGen to market. As a matter of fact, the reason we sold *Photo Lab* to EA was to get enough capital to develop the SuperGen. Thank you Electronic Arts!

How did work on the SuperGen proceed?.
It took us the rest of 1986 to get the product off the ground – mainly because Commodore wouldn't cooperate with us on the specifications for genlocking the Amiga. The guys at Progressive Image had to completely reverse engineer how the Amiga genlock circuitry works. It turns out that this was to our advantage because our genlock is truly broadcast quality and Commodore's own genlock was not! Since then, some 15 other genlock products have come and gone in the U.S. market. Only two have had professional quality: ours and one from a company called Magni. We've outlasted them all. In fact, I would hazard a guess and say that there are more SuperGens in the world than all the others combined!

Since then, we introduced the SuperGen 2000s – the first S-Video compatible Genlock for the Amiga 2000, and the SuperGen SX – our current state of the art external S-Video genlock for all of the current Amigas. We also have a PAL version of the SuperGen SX.

How many SuperGens have been placed out there?
Gee, that's a *big* question. We've sold tens of thousands of them. First of all, just about every television station with an NTSC signal has at least one, if only to just put up simple titles. In South America, they are used extensively as the main source of titles and graphics. NASA uses them to put titles and other info over their video feeds. Many of the Fortune 500 media departments use Amigas and SuperGens to create titles and graphics for their corporate video needs. SuperGen is used in just about every cable installation in the U.S. to provide the "Preview Guide" channel. This is an information channel that tells you what is on all the cable channels at the current time. I could go on and on. But let me tell you about one of our neatest applications; we created a version of the SuperGen that is used in Hollywood to synchronise Amiga video with movie cameras. It's been used in many feature films. I guess the biggest one so far was *Total Recall*. All of the video monitors used in that film were created with Amigas and SuperGens.

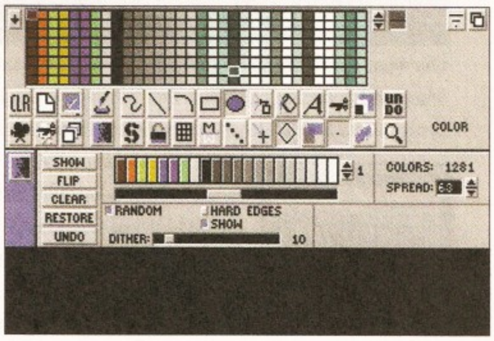
Whose idea was DCTV?
The original idea behind DCTV was mine. I wanted to create a product that would give the average Amiga user the ability to create these really cool 3D animations that the Amiga could do, but in something much more realistic than HAM. DCTV was simply a video compression system that would use the Amiga's ability to move a lot of data around very fast, but in a more colourful and detailed way. DCTV creates really cool video that looks like television, but with very low memory overhead so that animations are possible. DCTV was my idea, but the hardware geniuses at Progressive Image are the ones that took that idea and made it a reality. Paul Greaves and Michael Moore, the President of Progressive Image Technology, are the brains behind the actual hardware implementation.

How successful has DCTV been?
DCTV has been very successful in the U.S. market. It quite easily matched our expectations. In fact, we reached our one year sales goal in the first two

months and then doubled that again in the next three months.

How about European sales?
Our European sales are another story. DCTV started out very well in Europe. But in general, we have been somewhat disappointed in the European market. It seems very hard for us to find distributors who can follow through with any kind of sales plan. It's not that the European customers don't like our products; it just seems that getting our product to them is very difficult. *Brilliance* is doing much better though!

What, in your opinion, has been the overall impact of DCTV on video?
We believe we've made a significant impact. Our sales numbers would tend to bear us out. Also, all of the various 3D packages make it a specific point in their manuals and their products to support DCTV. This is because most of their users are probably using DCTV as well. Today DCTV is still the only realistic way of creating moving animations



"We're just introducing Brilliance 2.0 (issue 38 of AS). Now we are going to sit back and see how it and the Amiga does in the next few months."

with the Amiga that look like television.

How about a word concerning DCTV Paint, especially its upgrade path?
Well, there has always been a plan in place to take *Brilliance* and *DCTV Paint* and combine them to make the next *DCTV Paint*. However, given the current Amiga market, we are in a wait and see posture on that product.

Is higher resolution DCTV possible?
There are several things we can do with the DCTV compression technique to enhance its signal. I wouldn't call them higher resolution; it would be more accurate to call it better compression and it can be done all in software. All of these enhancements will be made in the next version of *DCTV Paint*.

What about your relationship with ADSPEC Programming (Aladdin-4D) and Greg Gorby?
Actually, Greg Gorby, President of ADSPEC Programming, saw DCTV before we really knew him. He really saw the potential of DCTV and put the support in his products simply because he is a very intelligent fellow, not because of any specific relationship that we had with him. Since then, the relationship between Digital Creations and ADSPEC has been great. We tell him things, he tells us things... but there is no specific relationship between the two companies. In terms of cooperative ventures, he has been helping us a great deal with some 3D stuff for our next Video Product: the VMachine.

Whose idea was it to challenge Electronic Arts' DPaint with Brilliance?
Well, it was all of ours. We have a history of writing paint programs. We had created *Deluxe Photo Lab*; we had working for us the team that created *DPaint* for the Atari ST; we had created *DCTV Paint*. I guess you could say that there was no way we weren't eventually going to create the greatest paint program ever for the Amiga.

How well has Brilliance penetrated the Amiga market?
Brilliance has done well, however, we are very concerned for the future of the Amiga market. *Brilliance* has not done as well as it would have had it been launched say two years ago. The further erosion of market is not something we are looking forward to. We really would like to see Commodore come back with cost reduced machines and a healthy marketing campaign. [*Obviously, recent developments suggest that Commodore and the Amiga are in a possible divorce settlement! – Shamms*]

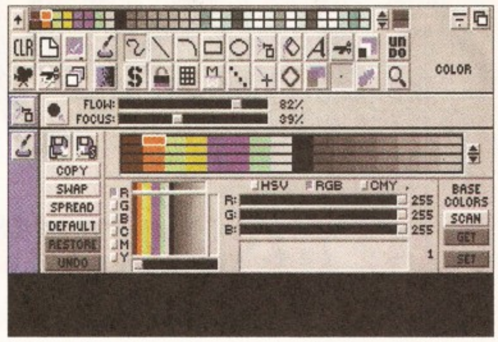
Do you have any reflections on software piracy?
Piracy is an all too real danger. Piracy is a contributing factor to the current Amiga market problems. With piracy developers don't develop. Without development of new product, the machine begins to die. *Brilliance* is the first product that we have ever put a security key on. We thought about that decision for a long, long time. We felt that without it, *Brilliance*, an easy to use paint package, would be too greatly copied, and that we would never get back what we put into developing it.

Where is Digital Creations going from here?
We're just introducing *Brilliance 2.0*. For now, we're just going to sit back and see how it does and how the Amiga does over the next few months. Of course, we're already working on ideas for 3.0. We will probably also port it over to the IBM Windows world at some point.

How about new applications?
We're definitely into video and computer applications and that is still the general area that we are heading towards. We just introduced the VMachine and are currently finishing up development on this product. The VMachine is an under $10,000 video editing and effects system that works on the IBM 486 compatible machines. It can create spectacular video effects of true broadcast quality with fully filtered images. It works in full digital component and is CCIR-601 compliant in every way. It will also be available in PAL. We are very excited about this truly awesome product. We



"Brilliance is doing a lot better than DCTV in the European market – but on the whole it seems difficult to get the products to Europe."



"There has always been a plan in place to take Brilliance and DCTV paint and combine them to make the next DCTV Paint – we'll see."

have in fact been working on the VMachine product with Progressive Image since the early days in 1986 – more than eight years! It has taken this long for the technology to become inexpensive enough for us to create and market the VMachine at the price we wanted.

Does Digital Creations' future still include the Amiga?
That's a good question... The bigger question is: does the Amiga have a future? If it does, then we'll definitely be a part of that future.

Is there a possibility that some of the things you've been developing for other platforms could find their way back to the Amiga?
There are certainly many possibilities in that area. There is no reason that we couldn't develop the VMachine for the Amiga. There are other products that we are working on that will probably wind up on the Amiga as well.

If you were the head of a company that marketed the Amiga, what would you do?
Well, if I was the instant head of that company, the first thing I would do is pass out a 50 question multiple choice test to everyone in a management position. The questions would all relate to the Amiga and third party products that work with the Amiga. Any manager that doesn't get at least 45 right I would fire for not knowing his product, thus not knowing his job. The sad part, though, is that I believe that most of the managers recently at Commodore would have failed this simple test! Long term, I would try to greatly cost reduce the machines and get a real advertising campaign started. I would also try to develop strategic partnerships with important developers rather than continue the adversarial role that Commodore management played.

What is Digital Creations' overall philosophy?
Development of state-of-the-art computer graphics products *is* our philosophy. It's what we do! Seriously though, computers and video have been on a collision course. Now that they have met, the explosion is just beginning. A lot of things are going to happen in the next few years, and we want Digital Creations to be a part of it.

Any closing remarks?
We'd like to thank everyone who's ever bought a Digital Creations product, We have been creating Amiga-only products for more than eight years, and our thousands of loyal customers have made Digital Creations an enormous success. As to the future, piracy will definitely kill any machine. As long as the Amiga market exists, we will continue to create new and awesome products for it.

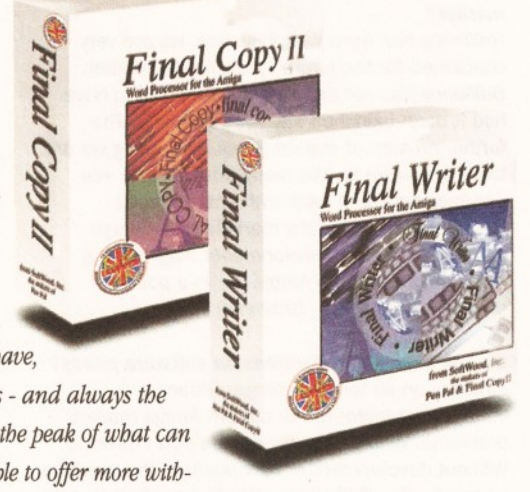
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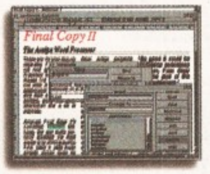
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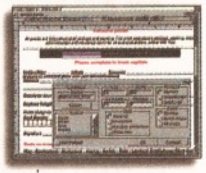


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Amiga Format... *"Final Writer is a joy to use"* **Amiga Shopper...** *"Final Writer is the closest thing to MS Word to appear on the Amiga"* **Amiga Computing...** *Final Copy II was voted by the readers as "Best DTP Package"* **Amiga Format...** *"Final Writer is a word processing package the Amiga community as a whole can be proud of"* **Amiga Format...** *Final Copy II is "The Best Word Publisher"* **Amiga Pro...** *"In comparison (to Wordworth 3), Final Writer 2 is slick, solid and reliable and... is a damn site more usable"* **Amiga User International...** *Final Writer is "a powerful program that produces excellent results"* **Amiga Computing...** *Final Writer is "easily the most configurable Amiga WP ever"* **CU Amiga...** *Final Writer is the "most powerful WP ever to grace the Amiga"* **Amiga Format...** *"I'd go for Final Writer over Wordworth (3)"*

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HELP ON MEMORY: Our products are the most economical in their use of memory. Like others, we quote the minimum memory required to load our software but we also like to make it clear that all g

Amos Action

Simon Green shows you how to create plasma clouds, read from a sound sampler and surf the Internet.

Hi there! My name is Simon Green, and over the next few months I'm going to be your expert guide through the wonderful world of AMOS. It's certain to be a journey filled with danger and excitement. On the way you're sure to shed both tears of joy and tears of sadness, but if you pay close attention there will be many rewards. Anyway, I think I've taken this metaphor far enough now, so on with the show.

PLASMA CLOUDS

To kick off we have a neat little program that is a personal favourite of mine. It generates multi-coloured "plasma cloud" patterns, of the sort often seen in European demos and on the covers of dance music compilation albums. The program is fully controllable and you can save out the finished pictures for use in your own productions.

Plasma clouds are an example of what is called a recursive subdivision (or plasma) fractal. This may sound complicated, but the actual procedure to produce them is actually very simple. The easiest way to visualise the pattern is as a square 3D map, with each point in the pattern representing the height at a corresponding point on the map. The diagram on the next page illustrates the process, with the heights shown as numbers. The basic algorithm is very easy to understand.

Stage 1. We start off with a single square the size of the full map, and set each of the four corner points to random heights (in this case, 10, 50,30 and 0).

Stage 2. This is the clever bit. We create four new points at the midpoints of each edge of the square. We set the height of each of these midpoints to the average height of the points at the ends of the edge. So, for the top edge, which has heights of 10 and 50 at the ends, the height of the new point is 30 (10+50 / 2). We do the same for the left, right and bottom edges.

Finally, we add another new point at the centre of the square, whose height is the average of the four new points that we created on the edges. In the example, the height of the middle point is 22.5 (10+50+30+0 / 4), which is rounded down to 22.

Stage 3. Now, if you look carefully, you will see that in all the excitement we have created four brand new squares, each half the size of the original square.

We can now repeat the procedure we performed in stage2 on each of these new squares. Each of these squares will in turn create new four squares, and so on. You can carry on doing this until all the slots are filled in, as shown in stage 4 in the diagram. As it stands, this process will simply produce a smooth contour between the corners of the map since it is basically just averaging out the heights between points. But if we add a random value to the midpoints, related to the size of the square we are working on, much more interesting and unpredictable patterns occur.

BLITS & BOBS

There are more than 2,500,000 computers connected to the Internet. Current estimates put the number of worldwide users at 20 million.

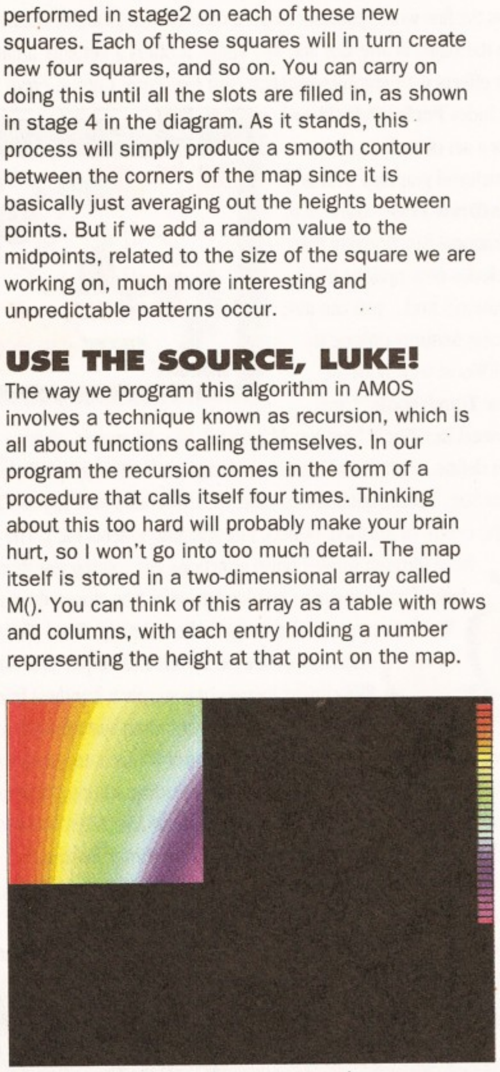
Listing 1: Fractal Plasma Clouds

The symbol ☛ means do not type a return – keep typing to the end of the next line. ▼☛ means type a space, then keep typing to the end of the next line.

```
' Fractal plasma clouds
' Simon Green, 1994
'
Set Buffer 300
'
' open screen
Screen Open 0,320,257,32,LORES
Curs Off : Flash Off : Cls 0
'
' set up and display palette
Palette $0,$F00,$F20,$F40,$F60,$F80,$FB0,☛
$FD0,$FF0,$CF0,$9F0,$6F0,$3F0,$F0,$F5,$F8,☛
$FB,$FE,$EF,$BF,$8F,$6F,$3F,$F,$30F,$60F,☛
$90F,$C0F,$F0F,$F0B,$F06,$F02
For C=1 To 31
   Ink C : Bar 310,C*5 To 319,C*5+3
Next
'
' map size
S=128
' recursion limit
L=1
' randomness factor
RANDOM=200
' maximum height
HEIGHTMAX=10000
' scaling factor
SCALE#=30.0/HEIGHTMAX
'
' height map array
Dim M(S,S)
' set corners of map to random heights
Randomize Timer
M(0,0)=Rnd(HEIGHTMAX)
M(S,0)=Rnd(HEIGHTMAX)
M(0,S)=Rnd(HEIGHTMAX)
M(S,S)=Rnd(HEIGHTMAX)
'
' generate map
FRAC[0,0,S]
' do some pretty colour cycling
Shift Up 1,1,31,1
Wait Key
Shift Off
End
'
Procedure MAPPLOT[MX,MY]
   Shared M(),SCALE#
   C=M(MX,MY)*SCALE#
   C=Abs(C) mod 31
   Ink 1+C : Plot MX,MY
End Proc
'
Procedure
FRAC[X,Y,S]
   Shared M(),L,☛
RANDOM
   H=S/2
   R=H*RANDOM
   '
   ' plot map points on screen
   MAPPLOT[X,Y]
   MAPPLOT[X+S,Y]
   MAPPLOT[X,Y+S]
   MAPPLOT[X+S,Y+S]
   '
   ' calculate mid points
   If M(X+H,Y)=0
      M(X+H,Y)=(M(X,Y)+M(X+S,Y))/2+☛
Rnd(R)-(R/2)
   End If
   If M(X+H,Y+S)=0
      M(X+H,Y+S)=(M(X,Y+S)+M(X+S,Y+S))/2+☛
Rnd(R)-(R/2)
   End If
   If M(X,Y+H)=0
      M(X,Y+H)=(M(X,Y)+M(X,Y+S))/2+Rnd(R)-☛
(R/2)
   End If
   If M(X+S,Y+H)=0
      M(X+S,Y+H)=(M(X+S,Y)+M(X+S,Y+S))/2+☛
Rnd(R)-(R/2)
   End If
   ' calculate middle point
   If M(X+H,Y+H)=0
      M(X+H,Y+H)=(M(X+H,Y)+M(X+H,Y+S)+☛
M(X,Y+H)+M(X+S,Y+H))/4+Rnd(R)-(R/2)
   End If
   '
   ' if not too deep, recurse
   If H>=L
      FRAC[X,Y,H]
      FRAC[X+H,Y,H]
      FRAC[X,Y+H,H]
      FRAC[X+H,Y+H,H]
   End If
End Proc
```

USE THE SOURCE, LUKE!

The way we program this algorithm in AMOS involves a technique known as recursion, which is all about functions calling themselves. In our program the recursion comes in the form of a procedure that calls itself four times. Thinking about this too hard will probably make your brain hurt, so I won't go into too much detail. The map itself is stored in a two-dimensional array called M(). You can think of this array as a table with rows and columns, with each entry holding a number representing the height at that point on the map.



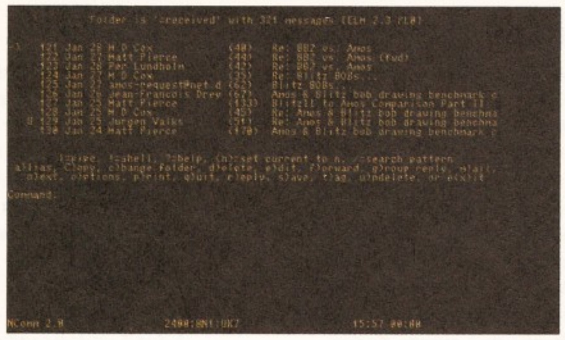
Without any random element, the program makes a smooth gradient between the corners...

AMOS ON THE NET

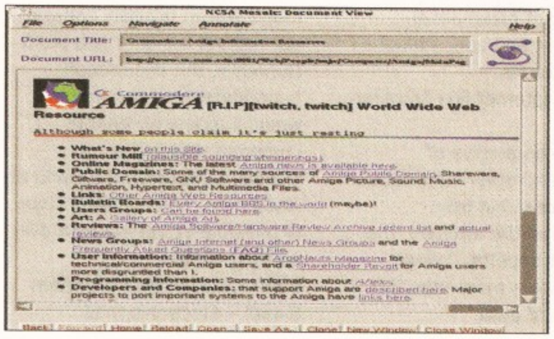
You can't open a magazine or watch television these days without hearing something about the "Internet" and "information-super-highways". But despite all the hype, there is a huge amount of useful information and software available on the Internet, if you know where to look. And not surprisingly, there is a considerable amount of Amiga and AMOS material out there.

AMOS MAILING LIST

Those of you lucky enough to have access to the Internet might like to subscribe to the AMOS mailing list. All you have to do is send a message to "amos-request@access.digex.net", with the text "SUBSCRIBEyouremailaddress" in the body. You should soon receive a friendly message from Michael Cox, the moderator of the list, which will tell you how to contribute. From then on, every day your mailing box will be flooded with messages from the list, containing lively discussion and debate (usually on the relative merits of AMOS and Blitz Basic), AMOS news, reviews and even the occasional program. If you're lucky you might even see one of my witty contributions.



There is a huge amount of Amiga and AMOS information on the Internet, if you know where to look.



The World Wide Web provides a much more friendly interface to the Internet, which means you can waste even more time playing around with it.

AMINET

The Aminet is a collection of connected ftp sites that contain a huge amount of Amiga public domain and shareware software, including a lot of material that is difficult to find elsewhere. The most local sites for UK users are probably "ftp.luth.se", located in Sweden, and "src.doc.ic.ac.uk", at Imperial College, London. All the AMOS software is located in the "/dev/amos" directory. There is an interesting selection of demos, utilities, and extensions to be found there, some of which I may be reviewing in a future issue.

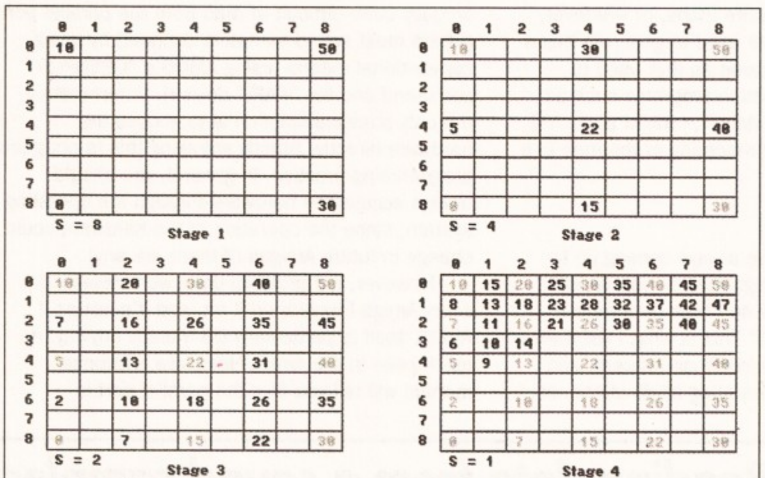
If you don't have Internet access, you can also obtain the Aminet archives on CD-ROM. See the Aminet CD-ROM review in the May issue for more information. Even if you don't have access to the Internet, you'll probably find that some of your local BBSs have AMOS discussion areas. And if you don't have a modem, your favourite public domain distributor is sure to have a wide selection of AMOS disks available. Why not check them out? And if you don't have an Amiga, well, what are you then doing reading this magazine?

Most of the clever stuff in the program happens in the FRAC procedure. This procedure takes the co-ordinates of the top-left corner of a square(x,y), and its size (s), and calculates the heights of all the midpoints. It then calls itself four times to calculate the four new squares that are produced. Each of these calls of the procedure will also call the procedure again four times, and so on until the pattern is complete. The procedure MAPPLOT is used to plot the map to the screen as the calculation progresses. It takes the height from the map array, converts it to a screen colour, and plots a point on the screen in the right place.

There are a number of constants defined at the beginning of the program which you can alter to change the patterns that are produced. To change one of the parameters, simply delete the existing number and type in a new value, then re-run the program."S" controls the size of the map, or more accurately the length of the side of the (square) map. It should always be a power of two (eg. 256, 128, 64 etc.). To produce a full screen map, simply change the line S=128 to S=256."L" is the recursion limit, which controls how deep the recursion goes.

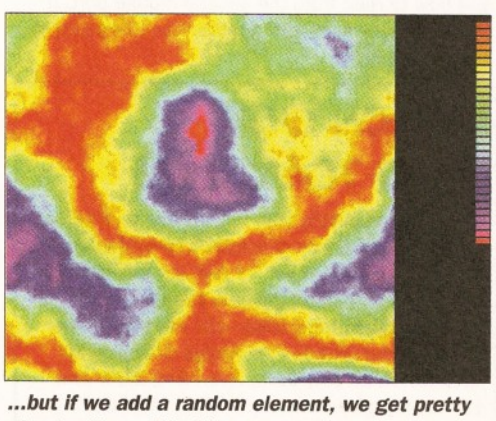
For a fully filled-in map, this should be left at 1. If you want to do a quick preview, then just set the recursion limit to 2 or 4."RANDOM" is the randomness factor. This controls the level of randomness that is used to create the map. The higher it is, the less smooth and more"crinkly" the cloud looks."MAXHEIGHT" is the maximum height allowed in the map. In actual fact, due to the random element, the heights in the map can go above this level."SCALE", the scaling factor, controls how the heights in the map, which can range anywhere from 0 to MAXHEIGHT, are converted into screen colour numbers, which range from 1 to 31 (since we are using a 32 colour screen). Try multiplying the value in the program by 5 (ie add "*5" to the end of the line) for an interesting change.

Above all, experiment! Try changing a few values, and see what effect it has. The only problem is that the program is quite slow. It takes about five and a half minutes on my old A500 to draw a 128 x 128 map, but the results are usually

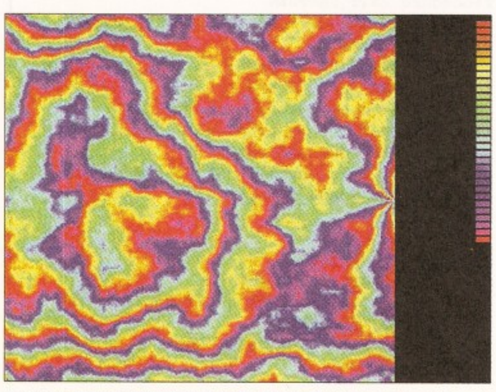


PLASMA CLOUDS

The easiest way to visualise the pattern is as a square 3D map, with each point in the pattern representing the height at corresponding point on the map.



...but if we add a random element, we get pretty cloud patterns like this.



If you increase the scaling factor, the patterns can look like this.

BEGINNERS START HERE

What is this AMOS thing, anyway ?
AMOS is a popular version of the BASIC programming language for the Amiga. It is specially designed to make it easy to write programs that take advantage of the Amiga's amazing sound, graphics and animation capabilities. You can use AMOS to create anything from serious database applications to demos and arcade games.

I've typed in the listing and the program doesn't work.
You need a copy of AMOS or AMOS Professional to run these programs. Check that you have typed in the program exactly as it appears in the listing, since even the smallest mistake can cause some strange problems.

I don't understand a word you're saying. Can you help?
Oh well. I tried my best. Try reading through the article again. Failing that, you could always sell your Amiga and take up needlework as a hobby instead.

How do I get to use this "Internet"?
The easiest (and least expensive) way to get access is through a University or other educational establishment, although this is obviously only for educational purposes. Alternatively, there are now a wide choice of commercial services, such as Cix and Demon, that will give you access for an hourly charge. You will also need a device known as a modem to connect your computer to the telephone system.

worth the wait. Also, remember that there is a large random element involved, so you might have to run the program a few times to get an attractive looking pattern. If it looks boring, stop the program with CTRL-C (press the CTRL and C keys at the same time) and re-run it.

The palette built into the program is a psychedelic colour spectrum, going from red to yellow to blue to purple, but you can use whatever palette you like. You might like to try creating a palette to make the map look like a real blue/green map of the earth, or some nice fluffy white clouds. When the program has finished, it cycles the colours just for fun. You can press any key to stop it. Don't forget you can easily save out the pictures the program generates by using AMOS's "save iff" command. Just go into direct mode by pressing escape when then program finishes, and then type "save iff "filename"". You can then load them into your favourite paint program, use them as texture maps, or whatever. Interestingly, the technique used to generate these patterns is basically the same as that used to generate fractal landscapes in programs such as *Vista*. If there is enough interest, I might publish the code to produce a 3D rendering of the map in a future issue.

JARGON BUSTING

Algorithm – a step-by step procedure for performing a particular task, not necessarily in any particular programming language.
Fractal – a mathematical structure exhibiting self-similarity at different scales. The Mandelbrot set is one of the most well known examples.
Recursion – see recursion (ho ho – sorry, old computer joke!).
The Internet – a global network of computer networks consisting of commercial, government and educational establishments.
Ftp – The Internet File Transfer Protocol.
Ftp site – an archive of software and other information that is accessible from anywhere on the Internet. The largest, at Imperial College, London, holds more than 34 Gigabytes of data.
Information Superhighway – much like an ordinary highway, but without the cars and stuff. Seriously, the information superhighway, if constructed, would supposedly enable computer data to be transported across the world at rates many times greater than is possible at the moment over existing lines.
BBS – Bulletin Board System
E-mail – Electronic mail

SAMPLE THIS

It's strange, but people are always coming up to me in the street and saying: "Hey Si, you reckon you're pretty smart — how do I read data from a sound sampler in AMOS ?" This is what I tell them. Seriously though, this is a common request, and one which has a lot of interesting applications. In fact, it's not as easy as it sounds.

The problem arises from the fact that it's actually quite difficult to read from the parallel port (where most sound samplers connect) by using conventional means (using AMOS's "OPENPORT" command and the "PAR:" device). Unfortunately, the only possible solution is to access the hardware directly. Strictly speaking this is not good programming practice. In general, you should always access the hardware through the operating system, since the operation of the hardware could change in future Amigas (if there are any).

However, the program does work reliably on every Amiga I have tried it on, and it's not as if AMOS itself is particularly OS-friendly anyway. A quick peek in the Amiga Hardware reference manual will tell you that the parallel port is controlled by some clever chips called the CIAs, or Complex Interface Adapters. The hardware addresses of these chips are defined at the beginning of the program – make sure you type them in correctly!

The program given in the listing simply draws a pretty graph moving from left to right, but there's no reason why you couldn't use the procedures to produce a VU-meter type display, or even a complete sound-to-light disco system. Everything you need is contained in the two procedures INIT_SAMPLER and _GET_SAMPLE (note the leading underline). Simply call INIT_SAMPLER at the beginning of your program to initialise the sampler, then call _GET_SAMPLE every time you want to read a sample from the sampler. It returns a number from –127 to 128, which represents the amplitude of the signal (ie the volume of the sound) at that particular instant. It's unlikely that you'll be able to sample quickly enough to actually record a sound (you would have to call _GET_SAMPLE at least 8000 times a second), but there are many other possibilities. Have fun!

Future attractions for *Amos Action* might include features on how to use MIDI from AMOS, and how to read from the second mouse port. If you've got any special requests, don't hesitate to get in touch. AS

Listing 2: Reading data from a sound sampler

```
' Reading data from a sound sampler in Amos
' Simon Green 1994
'
' CIA hardware addresses for the parallel
port
CIAA_PORTB_DATA=$BFE101
CIAA_PORTB_DIR=$BFE301
CIAB_PORTA_DATA=$BFD000
CIAB_PORTA_DIR=$BFD200
'
' Open a nice green screen
Screen Open 0,640,256,2,Hires
Palette $0,$F0 : Curs Off
'
SPEED=1
INIT_SAMPLER
'
' Draw a nice graph
'Do
   Cls
   Print "AMOS Super Sound Sampler ▼☛
Oscilloscope"
   Plot 0,127
   For X=0 To 639 Step SPEED
      _GET_SAMPLE
      Locate 0,2 : Print Param;"   "
      Draw To X,Param+127
   Next
Loop
'
Procedure INIT_SAMPLER
   Shared CIAA_PORTB_DIR,CIAB_PORTA_DIR,☛
CIAB_PORTA_DATA
   ' Set all bits in parallel port to inputs
   Poke CIAA_PORTB_DIR,0
   ' Set channel select bits ▼☛
(SEL and POUT) to be outputs
   Poke CIAB_PORTA_DIR,%110
   ' Select left channel (if stereo sampler)
   Poke CIAB_PORTA_DATA,%100
End Proc
'
Procedure _GET_SAMPLE
   Shared CIAA_PORTB_DATA
   ' Returns signed byte (-127 to 128) ▼☛
from sampler in PARAM
   BYTE=128-Peek(CIAA_PORTB_DATA)
End Proc[BYTE]
```

REACH OUT AND TOUCH ME

I don't know about you, but I'd like to a see a bit more in the way of reader interaction on these pages. So, if you've got any questions, programs or disk magazines you've created, or contributions of any kind, why not send them to me: Simon Green c/o *Amiga Shopper*, 30 Monmouth Street, Bath, Avon BA1 2BW and I'll happily give them my critical attention?

GIVE YOUR AMIGA WHAT IT DESERVES: THE VERY BEST

You've made the right choice in buying an Amiga; no other computer can compare to its versatility and power for the price. And, of course, like all things you treasure, you have a warranty for it which came as standard when you first bought it. But what happens after your first year is up? What if your Amiga has a break down?

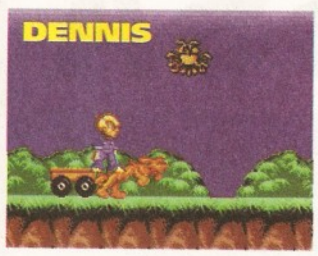
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*** From date of purchase**



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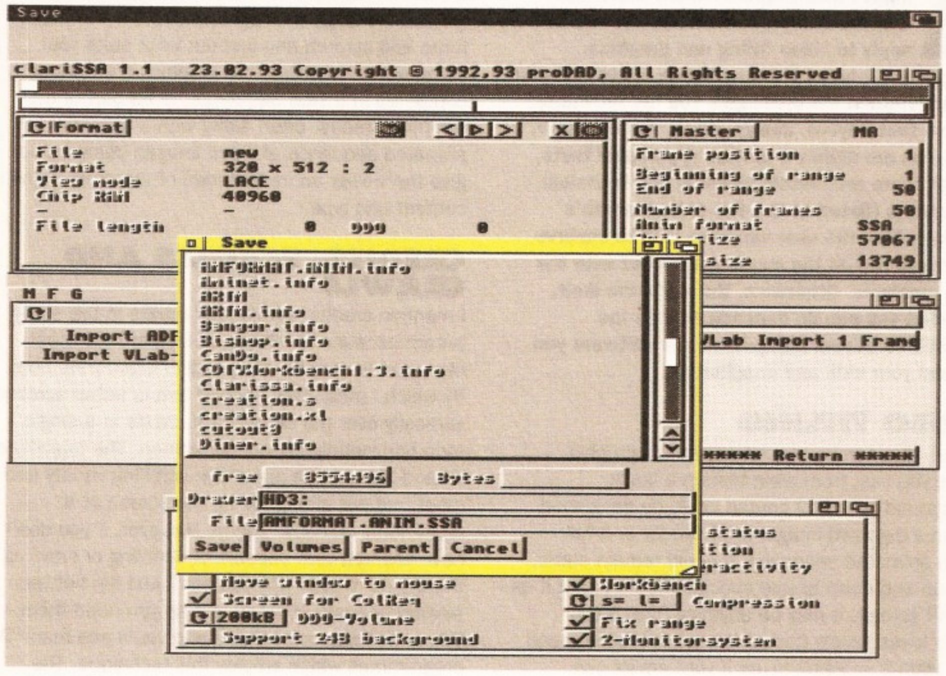

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ISSUE 61

On sale Thursday 23 June

CLARISSA FEATURES

- Anim 5 animations can be converted to SSA format for vastly improved playback.
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Next month, *Amiga Format* promises you the power of *ClariSSA* – the Super Smooth Animation processor.

Of course, getting to grips with a complex package like this can be a real headache – what you need is expert guidance…

Claim your free video and let *Amiga Format* take you through *ClariSSA* step-by-step. The video, (which will be on general sale for £14.99 once *AF61* has sold out) will be available *free* only to *Amiga Format* readers – you only have to pay the price of postage and packing.

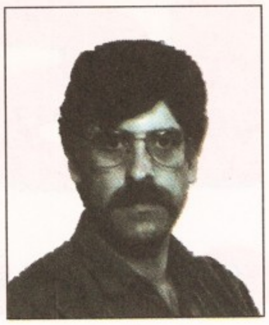
This video has been specially created to complement the *ClariSSA* Coverdisk, and has been produced with the help of the *Amiga Format* team. So you know it'll be good.

This is the first in a series of video guides commissioned and co-written by *Amiga Format*. See the July issue for more details!

ON NEXT MONTH'S COVERDISK

ClariSSA – the complete program worth £79.99!

Video Titling



Gary Whiteley continues the titling theme, looking at credit sequences, subtitling, captions, idents, and more in this second and concluding part of his video tutorial.

Alright I admit right from the start that there are no hard and fast rules which apply to video titling and graphics, except that it helps if the audience is able to read and understand the messages you are providing. Beyond that, layout, design, style, use of colour, and so on are mainly a matter of personal taste, though there are certain physical and technical constraints (listed at the end of last month's article) which the user would do well to observe in order to obtain the maximum impact with the least problems. Otherwise, the sky's the limit, and what you can do depends only on the capabilities of your equipment, the software you use and your skill and imagination.

VIDEO TITLING

A video title can be almost any Amiga graphic image you like, from plain text on a black background (which of course could be genlocked out) to a digitised image, a 3D render or a full-blown animated sequence. It could remain static, fade up and down or use special effects to get it on and off screen. It may be anything from a two colour lo-res image (though I wouldn't recommend it) to HAM-8 or 24-bit hi-res if your Amiga can handle it. It may be part of a scrolling sequence or it may just be a single, simple image which either holds its own or is part of a custom-designed video sequence which is shot and edited to order. Whatever, it should by now be apparent that there are loads of options available when producing video titles, and that it is ultimately up to you to decide what's best for the job in hand.

One cheap and easy way to get some titling inspiration is to watch TV, taking special interest in the way that graphics are used. Don't worry about copying the quality – I know it's extremely unlikely that most readers will have an Amiga and video setup which is well-enough equipped to do broadcast quality graphics – but there's no reason why you can't try out some of the ideas you see and determine just what you can do with the equipment you have. How can you expect to know what your Amiga is capable of until you push it to its limit? So do just that. Try using large fonts, and Colorfonts, or make an animated sequence with *Deluxe Paint*. Try combinations of text and graphics, change the layout around, try different fonts and colours and find out what suits your titling style. Note that title graphics are frequently contained in a Title Sequence, or as part of the Opening Credits, often along with a specially prepared sequence of video images designed to give the viewer an instant idea of the programme's content and type.



A video title can be anything you want it to be. Here's one I made in a 3D program to prove that not all video graphics have to be of 2D origin.

CREDITS, SCROLLS AND CRAWLS

I mention credits, scrolls and crawls in the same breath because credit sequences are the most likely candidates for the scroll or crawl treatment. By which I mean that lines of text is either scrolled vertically over the screen or it crawls in a single strip horizontally across the screen. The majority of TV and film credits are of the scrolling variety and most (but not all!) scroll *up* the screen at a reasonably readable speed. However, if you don't have any software capable of scrolling or crawling there's no reason why you can't just flip between several screens of static text as you need them – this is perfectly acceptable and you'll see many TV programmes which employ this technique. The most important aspect of a credit sequence is to provide the right information in the right order, which means that you've got to be a bit organised. If you're directly involved in the video production that you're doing the credits for, then it should be fairly easy to make a list of everyone involved and what part they play in the production.

Putting it all in the right order can be a little more tricky, as pecking order can sometimes be more important than talent, and woe betide the graphics artist or technician who puts the actor's names in bigger text than the Director under such circumstances! Exactly *how* you credit everyone, and in what order, size and even colour can be dictated not only by how much time there is available for the final 'roller' (as it is sometimes known), but also by the background that the credits will run against. You'll all be familiar with the speed that the credits rush by at the end of American TV soaps and dramas, but have you ever wondered why? Economics, that's why! Each second that the credits are on screen means that potential commercial time is lost – and that means less money for the station's shareholders. Hence the proliferation of superfast credits.

Thankfully most of us don't need to worry ourselves about the speed of the credits we produce, and so we can take the time we need to make sure that everything can be successfully and easily read. Crawls can be useful for more than just credit sequences. Information can be run across the lower regions of a live TV picture without obscuring the image too much, thereby cramming more information on to the screen at any one time, whilst keeping it as readable as possible. Network 7 (an early and innovative Channel Four youth programme) was one of the pioneers of full-on-information-in-your-face, and quite often overdid it, but nevertheless they proved that crawls (and other dynamic graphics overlays) can easily be used to provide extra information during a video production, advert, or what have you.



An example of how you could lay out scrolling text, whether alone or over a video background. Use your imagination and work out your own styles if you have access to scroller software.



Crawling text moves sideways across the screen, usually within the lower part of the screen. Crawls are a handy way of showing video whilst supplying a continual stream of accessory information.

SUBTITLES

Subtitles are those indispensable (but occasionally irritating) chunks of text which often adorn the bottom part of the TV screen when a foreign language film is being shown. Invariably they are composed of white text on a solid or semi-opaque black background and sometimes they can be quite funny if the translator's grasp of English isn't too hot. The problem with doing your own subtitling is that it takes a lot of time and effort – not only to put the subtitling on to video, but also to prepare all the text and insert it on screen at suitable points in the dialogue.

Professional subtitlers use time-code systems which read a time code recorded on to the source video tape and then trigger each subtitle at predetermined points. Amiga users can do this too, with the help of a SMPTE card and Zen Computing's *EuroTitler* software (Zen ☎ 061 7931931). Less demanding (or less solvent) users

can still do successful subtitling, though you'll need to be quick on the draw and constantly alert if you don't have access to video editing equipment, because doing a long run of subtitles in a single stretch demands *a lot* of concentration and a knowledge of the job in hand. Once again, even a paint program can be utilised at a pinch, and multiple pages containing each separate subtitle can be page-flipped as required. There are some software packages, particularly *Scala MM300* and *EuroTitler*, which will give you more control over your subtitling, perhaps even letting you choose the transparency of their automatically-generated text boxes, as well as trigger text either by time settings, or manually.

CAPTIONS

Captions are a bit like subtitles in that they are usually placed in the lower third of the screen. However, unlike subtitles, captions are used to identify or introduce places and persons – such as

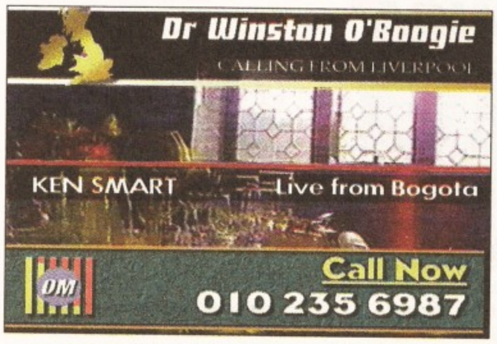


To add text to a picture or present a translation from a foreign language, subtitles are often the easiest way to do it. Semi-transparent backings are often used to make the text easier to read.

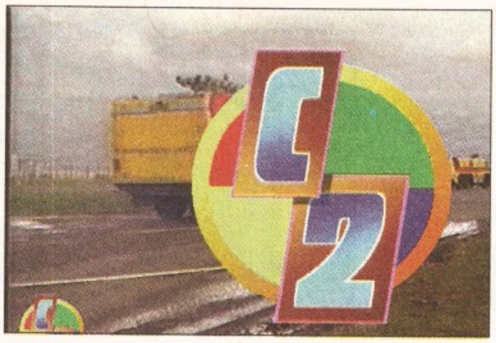
a news presenter. Captions often consist of significantly more than just a name or title. Graphic elements are also commonly included, for example a programme or station ident may be added alongside the text, and a fancy backdrop might be incorporated to really set the caption apart from the background video. But quite often just a simple line above white text may be all that is required, unless it's hard to see the text or graphics against the background video – in which case an opaque or semi-opaque backdrop may be necessary. Captions don't have to be static either – they could, for instance, contain an animated station logo, or transition on and off for more impact.

IDENTS

Idents are useful because they remain on screen and are used to provide a constant reminder to the viewer about the channel they are watching, or the



Here are three different caption styles, ranging from the simple to the complex. Each serves a purpose; to give the viewer concise information about a person, place or current event.



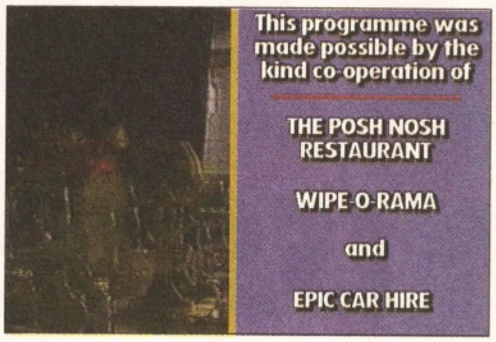
Putting a permanent caption or logo on the screen (like the small version in the corner!) helps the viewers identify the product much faster and also helps them to remember what they are watching.

product or service that is being advertised, and so continually keep the name in the viewer's mind. An ident is usually a miniature representations of a logo or design which is placed in one of the corners of the screen so as not to distract the viewer's attention away from the program too much, but still be annoying enough to be noticed and recognised.

Idents also serve the useful purpose of permanently branding a programme with its maker's or owner's symbol, making any piracy far more obvious. Say you've made a specialist programme about Amiga graphics which you know is going to be in great demand, but you're pretty sure that piracy is going to be a problem. By placing your ident on screen there's no way that a pirate can claim that the tape is his own work.

SPECIAL EFFECTS

Depending on what Amiga and video hardware and software you have, there are various options for spicing up your video graphics with special effects. If you have a genlock (which you almost certainly will if you're doing Amiga DTV), then you'll know that you can already overlay graphics on to video by using either palette colour zero, or (with certain genlocks) a user-selectable colour as the colour which becomes transparent to video. If you apply a little thought, and use a paint program, you can probably come up with a lot of interesting variations quite easily. By designing graphics and text which have only a partly 'see-through' background, and by considering how your graphics/titles/credits sequences will work before you shoot the video, it's possible to produce something a bit more innovative than rolling credits up the middle of the screen. For instance, what about displaying a scrolling, page-flipped or animated credit sequence on one side of the screen only, or crawling it across a solid backdrop



If you want to put information in one part of the screen, use a paint program and a genlock to make the other part transparent. This is one easy way you can customise your video graphics.



If you want to put crawling text on a backdrop over video then you'll need Scala MM300 – it's the only Amiga software I know of which is capable achieving this effect.

overlaid on to video?

The first choice is the easier of the two as it only requires some simple paint or scroller software and a few fonts to get going. The latter requires either *Scala MM300* and a genlock or vision mixer capable of doing video wipes. The first example is easy because all you have to do is prepare your scroll or pages of information one by one (hint: copy one screen and use it as a template) and make sure that the area you want to see video through is in the genlock colour (usually palette colour zero). Then, when you genlock the scroll or images over video all the areas which are the 'transparent' colour will be replaced by video. One thing to avoid is using colour zero in the areas where you don't want video to show through – so use a different black for shadows or outlines if your zero colour is black! The second example is easy too – but only if you have *Scala MM300* and a genlock. As I said – it all depends on the equipment you have. Gary Whiteley can be emailed as drgaz@cix.compulink.co.uk AS

JARGON BUSTING

Captions – a block of text and/or graphics, usually lower screen, to introduce a subject or talking head to the viewer.
Crawling – text which moves horizontally in a single line across the screen.
Credits – a list of the cast, crew and others involved in a film or video production.
Genlock – hardware to enable mixing computer graphics with live or prerecorded video images.
Keying – a method of electronically isolating part of a video image and overlaying it on to a second image. Genlocks use keying to put graphics over video.
Scrolling – pages of text which move smoothly up (and sometimes down) the screen. Used for credit sequences.
Station Ident – A small logo/design which sits permanently (and often annoyingly) in the corner of the screen to let you know which channel you're watching.
Subtitles – on-screen text translation of foreign dialogue or for those with impaired hearing.
Title Sequence – the front end of a programme, designed to introduce it, tell the viewer its name and perhaps who stars in it, and so on.

BACK ISSUES

Missed out on those tutorials, reviews and informative features? Here's your chance to catch up.

ISSUE 2



2D Paint packages reviewed and rated; which programming language is the one for you; *PageStream 2*, *Scala*, *Broadcast Titler* and the KCS Powerboard PC emulator reviewed £3

ISSUE 3



Accelerator cards put head-to-head; the versions of BASIC compared; first installment of C programming tutorial; *PageStream* tutorial; *Bars & Pipes Professional* and AT-Once PC emulator reviewed...........£3

ISSUE 4



Ten of the most popular printers checked out; creating a structured drawing package with C; programming with Intuition; *Wordworth*, *Real3D*, *Imagine*, *Superbase 4*, T_EX and *Pro 24* reviewed £3

ISSUE 14



Hand scanners reviewed and rated; 15 memory expansions compared; incorporating sound effects and soundtracks into your animations; artificial intelligence; improve your Amiga programming £3

ISSUE 15



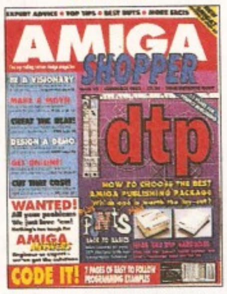
The best in PD software – how to set up a complete software system for nothing; the PostScript interpreter *Post*, *ImageMaster*, *SaxonScript Professional* DCTV and AVideo 24 reviewed £3

ISSUE 16



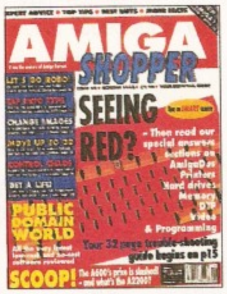
200 top tips – advice on everything from accelerators to Workbench, BASIC to WPs, C to video; getting the most from video titling; *Hit Kit*, *Professional Calc* and HAMA's 290 genlock reviewed £3

ISSUE 17



The top desktop publishing packages reviewed and rated; understanding typography; write adventure games with *Visionary*; tips on writing your own arcade game; Roland's new MIDI standard £3

ISSUE 18



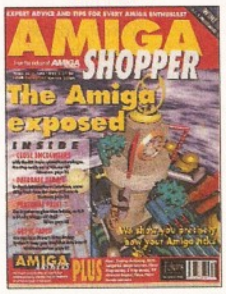
Amiga Answers special – 32 pages of solutions to problems on everything from AmigaDOS to video; using lighting to enhance your 3D graphics creations; typographical tips; *Maxiplan 4* reviewed £3

ISSUE 25



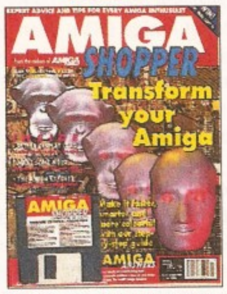
Nine top word processors reviewed and rated; legal advice with Amiga Advocate. Cover disk: *EdWord* text editor/WP, *AZSpell* spelling checker, CompuGraphic fonts and *Virus Checker*................£4

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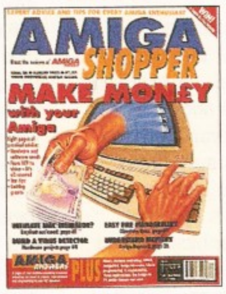
Find out how your Amiga works with The Amiga Exposed; get the best from your samples; fractal landscapes; VHS back-up system, *Personal Paint*, *TypeSmith* and *ADI Junior* reviewed £3

ISSUE 27



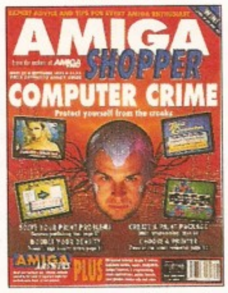
Upgrade your A500 to A1200 level; accelerator round-up; *Professional Page 4* reviewed. Cover disk: *OctaMED*, *XOper*, *Move* file mover, *JuliaMovie*, appointment scheduler, source code and *Virus Checker*........£4

ISSUE 28



How to make money with your Amiga; Amiga animations on TV; legal advice; chords with *OctaMED*; *Directory Opus*, Emplant, *PageSetter 3* and *Art Department Professional* reviewed £3

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Computer crime and how to protect yourself from it; Power XL high-density floppy, Ami-Back back-up system, VLab YC digitiser, *Pixel 3D Professional* and MBX1230 accelerator reviewed £3

ISSUE 35



Special beginner's guide. *Noddy's Big Adventure* reviewed. Cover disk: *HDClick*, Compugraphic fonts, *King Con*, *Fast JPEG*, *Magic Menus*, *Trash Icon*, *Imagine* objects, C and AMOS source code £4

ISSUE 36



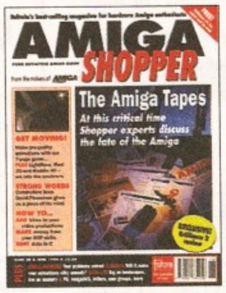
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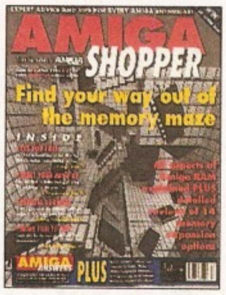
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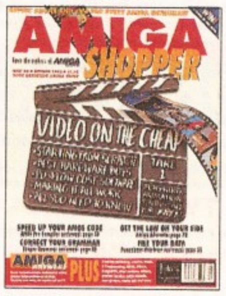
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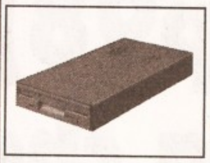
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Netsurfing



This month our comms expert and infamous "Netsurfer" Dave Winder tells you exactly how to make the most of the Internet by downloading files, for free!

If you've been reading *Amiga Shopper* during the last few months; indeed if you've been reading the more intelligent of newspapers, listening to the radio, or watching the television, then you can't have failed to have come across the Internet. The Internet is a network of computer networks. It is a world of vast information resources; a world where there are no boundaries; a world at your fingertips. Yep, you've guessed it; I'm an Internet fan.

There are files of just about any and every description on the Net; files for just about every computing platform, including the Amiga. Many are available to anyone who has Internet access, using a system by the name of "anonymous ftp". The term ftp refers to the Internet's "File Transfer Protocol," a method that allows files to be transferred between the multitude of computer networks that comprise the Net. It really doesn't matter whereabouts in the world the two computer systems are located; providing they are both on the Internet and can use the ftp protocol, then you can move files between them. In practice this means that you can download a file from a computer in the heart of America just as easily as if it was sitting in the next room to yours! Many sites on the Net allow anyone access to their file areas, and this facility is known as "anonymous ftp," referring to the fact that an account with that site isn't required to get to files that are held there.

GETTING STARTED

OK, assuming that you have Internet access (and you won't get anywhere without that), the first thing you will need is a site to actually connect to. This site needs to offer two things: firstly, files that are going to be of interest to you; and secondly, an anonymous ftp facility. I'll use a real life example as a tutorial. In my examples we'll be visiting a site which has the address of wuarchive.wustl.edu and contains all the best in Amiga PD software. Commands that you should type are enclosed in quotation marks. Ignore these "" marks, and just use the commands that are enclosed within them. Responses from the remote ftp site are shown in the **courier bold** typeface. The files I'm going to be downloading, are the Amiga implementation of the Mosaic World Wide Web browser.

To connect to the site, you need to type "ftp wuarchive.wustl.edu". Within a few seconds you'll get the response: **Connected to wuarchive. wustl.eduwuarchive.wustl.edu FTP server (version number and date) ready.**

You will then be prompted with **Name:**. To which you should reply "anonymous". The response will then be **Guest login OK, send your complete e-mail address as password. Password:**

At the password prompt, type in your full e-mail address. This isn't strictly necessary to gain access to an anonymous ftp site, but is a common courtesy so the system administrators can see who has been using their system. At the password prompt I would type: "dwindera@cix. compulink.co.uk". If this is accepted OK, you should see the ftp prompt which will look like this:

```
ftp>
```

You will also be presented with some helpful information. When I connected to wuarchive for this example, I got the following:

```
If your FTP client crashes or hangs shortly after login please try using a dash (-) as the first character of your password. This will turn off the informational messages that may be confusing your FTP client.
This system may be used 24 hours a day, 7 days a week. The local time is Fri Apr 15 13:31:04 1994.
You are user number 112 out of a possible 175.
All transfers to and from wuarchive are logged. If you don't like this then disconnect now!
Wuarchive is currently a DEC Alpha AXP 3000, Model 400. Thanks to Digital Equipment Corporation for their generous support of wuarchive.
Please read the file README
Please read the file README.NFS
Guest login OK, access restrictions apply.
Remote system type is UNIX.Using binary mode to transfer files.
```

When a system tells you that "access restriction apply" this usually means that you can only access certain directories (most commonly the "pub" or "public" directory). The last line of that information page is important: it informs you that binary mode is being used to transfer files. This is what you need to be able to successfully download any binary file (a graphics or program file or a file that has been archived for example), so if this were to say that ascii mode was being used, you would need to change this. For details on how to do this see the ftp commands box out.

Next step in getting our file is finding the directory where it is held. Most publicly accessibly files are kept in a directory called "pub". To see where you are in the directory structure of the ftp site, you need to type: "dir".

This will result in the following response in our example, from which I have removed some information which is of little consequence to us and gives information about the status of the directories. The important information that we want to see is what the directories are:

```
PORT command successful.
Opening ASCII mode data connection for /bin/ls.total 135
792 Mar 13 21:01 .Links
143 Feb  3 16:29 .about.html
0 Nov 28 1990 .notar
8192 Jan 14 18:36 .tags
2928 May 17 1993 README
1723 Jun 29 1993 README.NFS8192 Mar 31 15:44 bin
8192 Mar 31 07:17 decus8192 Feb 7 14:43 doc
8192 Jan 19 17:13 edu
8192 Apr 17 13:25 etc
8192 Jan 20 15:27 graphics
8192 Apr 17 04:22 info
8192 Mar 30 18:46 languages
8192 Apr 6 07:46 mirrors
8192 Jan 15 18:39 multimedia
8192 Mar 24 10:26 packages#
8192 Mar 8 08:27 private
8192 Apr 17 12:41 pub8192 Apr  6 07:46 systems
8192 Mar 8 09:20 usenet#
226 Transfer complete.
```

As you can see, there are a whole load of directories and you need to get into just one of them. To do this you need to use the "cd" command to change directory. So back at the **ftp>** prompt you should type: "cd pub". This will result in a response of: **All transfers to wuarchive are logged. CWD command successful.**

Then, to make sure you have arrived at the right destination directory type, once again: "dir". You will then see a listing of more sub-directories, which will look like the following, which have once again had the directory status information removed to save space here:

```
PORT command successful.
Opening ASCII mode data connection for /bin/ls.total 71
995 Apr 12 19:51 .cache
4480 Apr 12 19:38 .cache+
39 Jan 21  1993 .message
```

JARGON BUSTING

Internet – a worldwide network of computer networks.
The Net – another word for the Internet.
FTP – the file transfer protocol used for moving files across the Internet.
Site – any one of the networks that make up the Internet.
Server – a computer that allows other computers to use it by means of client software.
Client – an application that extracts information from a server on your behalf.
UNIX – an operating system commonly used across the Internet.
uuencode – a method of converting a binary file into text format so that it can be sent by email.

```
8192 Apr 17 12:42 MSDOS_UPLOADS
8192 Apr 13 07:49 Movies
8192 Apr 6 07:44 VMS
23 Jan 29 12:11 aminet ->
../systems/amiga/aminet
8192 Apr 6 18:15 baseball
22 Jan 29 12:11 boing ->
../systems/amiga/boing
8192 Apr 5 12:19 frontier_magazine
8192 Mar 30 12:03 mplan2
13 Apr 17 12:12 msdos_uploads ->
MSDOS_UPLOADS
8192 Apr 14 10:44 obflb
8192 Apr 9 10:03 urantia#
226 Transfer complete.
```

From here you have to move through the directory structure further, and this is a boring but necessary evil, to the "aminet" directory by typing: "cd aminet"

A further issuing of the "dir" command will show us the sub-directories available in the aminet parent directory, which are:

```
29 Jan 20 07:33 .forward
272 Mar 7 20:20. message
113 Apr 16 21:01 .names
877 Apr 10 23:35 CHARTS
484293 Apr 16 23:57 INDEX
210525 Apr 16 23:57 INDEX.Z
13319 Apr 4 16:45 README
7504 Apr 16 23:46 RECENT
4459 Apr 16 23:47 RECENT.Z
5113 Apr 17 00:13 TREE
8192 Jan 18 12:59 biz
8192 Jan 18 12:58 comm
8192 Jan 18 12:58 demo
8192 Jan 18 12:59 dev
8192 Jan 18 12:58 disk
8192 Apr 17 02:52 docs
8192 Mar 23 12:57 fish#
8192 Mar 25 21:25 game
8192 Mar 25 21:26 gfx
```

BLITS & BOBS

There are lots of extremely unusual files to be found on the Net, all available for FTP. You just need to know where to look really. So if you are feeling distinctly teapot, why not try these for size. Use the login of "anonymous" when prompted for each of these sites.

- **FTP to cs.dartmouth.edu**
A large selection of files about bagpipes can be found in pub/bagpipes/*

- **FTP to piggy.cogsci.indiana.edu**
You can find files relating to juggling in pub/juggling/*

- **FTP to sapphire.epcc.ed.ac.uk**
You will find a treasure trove of files concerning King Arthur and the Knights of the Round Table in pub/camelot/*

- **FTP to nstn.ns.ca**
Go to listserv/origami-l/* and find out how to make a life-like budgie from a piece of toilet paper.

- **FTP to nic.funet.fi**
Head straight for pub/doc/mail/stamps/* where you will find a fascinating list of European Postal Codes.

FTP COMMANDS

If you simply type "help" at the ftp> prompt, it will return a list of all the commands that are available. To make things that little bit simpler for you, as the nice guy I am, I have produced a list of the most useful and common of them for your perusal:

append	**append to a file**
ascii	**set transfer type to ascii**
bell	**set to beep when command is completed**
binary	**set transfer type to binary**
cd	**change remote working directory**
cdup	**change remote working directory to its parent**
dir	**list contents of a remote directory**
get	**receive file**
idle	**set idle timer of remote site**
ls	**list contents of remote directory**
mode	**set file transfer mode**
quit	**terminate ftp session and exit**
send	**send a file**
size	**show size of a remote file**
status	**show current status**
?	**print local help information**

```
8192 Jan 18 12:58 hard
8192 Jan 18 13:02 info
243059 Apr 16 21:35 ls-lR.Z
8192 Mar 15 21:09 misc
8192 Mar 25 22:03 mods
8192 Jan 18 12:59 mus
24576 Apr 17 11:00 new
8192 Mar 25 21:31 pix
8192 Apr 17 12:01 priv 8192 Apr 1 19:10
text 8192 Mar 25 21:34 util
```

As I know the file for our example is kept in the comm directory, the next step is to move by typing: "cd comm". A further directory listing will then display a further set of sub-directories, including one named "net" which is where our example file is kept. So one last directory move is required, which is achieved by typing: "cd net".

Finally, you are at the place where the file we want is stored. Of course, if you knew the directory path already you could simply have typed the following command to get straight here: "cd pub/aminet/comm/net".

A final directory listing will display details, including file sizes and date of uploading, of all the files kept there. The complete listing is far too big to print here, but here is an extract showing that the Mosaic archives are, indeed, where they should be.

```
219606 Jan 19 18:16 Mosaic.1_AS225.lha
902 Jan 19 18:16 Mosaic1.1_AS225.readme
217840 Jan 19 18:16 Mosaic1.1_AmiTCP.lha
857 Jan 19 18:16 Mosaic1.1_AmiTCP.readme
220028 Jan 19 18:16 Mosaic1.1_NoNet.lha
995 Jan 19 18:17 Mosaic1.1_NoNet.readme
```

Now to download those files. To get the first of the Mosaic files you would type: "get Mosaic.1_AS225.lha".

Once the binary transfer has started you will see a display of hashes (that's the # character and not a shipment of illegal drugs) which slowly fill the screen, each hashmark representing 1K of data transferred. When the transfer is complete you will return to the `ftp> prompt`. When you have transferred all the files you need you terminate the session to the remote ftp site by typing: "quit".

You will now be back at your local Internet service provider. Depending on the type of service provider you are using, the files will either have been transferred directly to your own computer or may be waiting in your local directory at the service provider. In the latter case you can see if the files are there by typing: "dir".

Having established that the file or files are there, use the send command to transfer them on the final leg of the journey, to your own computer. To do this type: `"send Mosaic.1_AS225.lha"`.

MY BEST TIP

If you are a member of CIX you can save a lot of time and money by using the new BATCHFTP facility. You can ask CIX to go and get the files you want to FTP while you go away and make a cup of tea, without being connected to the system and paying charges. This is how it works:

Say you wanted to get a file which you know is called teapot.lha and is stored at the ftp site of waving.david.co.uk (I have, for the benefit of any mind-numbingly slow readers, made up this address so don't bother trying it) in the pub/looney directory, then you would just type the following command at the CIX IP> prompt:

```
BATCHFTP waving.david.co.uk
/pub/loony/teapot.lha
```

Disconnect from CIX, or go and do something more interesting, then a while later (maybe as much as an hour, as it can take some time for these requests to be completed) go back to the IP> prompt and type:

```
BATCHFTP GET
```

This command will go and get any files that are sitting in your BATCHFTP directory, and send them to you using your default download transfer protocol. After the files have been successfully downloaded they will be automatically erased from the directory so they won't be picked up and downloaded again next time.

You'll then have a copy of the file on Amiga! You can use the ftp facility even if you don't have an Internet connection. To do this you use what is known as ftpmail. It's not as simple; you need to know the filename and the directory path of where it is stored. You will also need a utility to deal with uuencoded files, available from most BBSs and of course by ftp! The files are sent by electronic mail, and are converted to an ASCII format using the uuencode program. There is an ftpmail server in the UK at doc.ic.ac.uk, and to get the Mosaic file as used previously you would send email as the following:

```
To: ftpmail@doc.ic.ac.uk
Message text: open wuarchive.wustl.edu
anonymous <your email address>
chdir pub/aminet/comm/net
get Mosaic.1_AS225.lha
quit
```

AS

AmigaDOS



Startup-sequences are the bane of the new Amiga user's life. As Mark Smiddy explains, a little knowledge is all you need to get on the right side of starting the machine.

BEGINNERS START HERE: ACCESSING AMIGADOS

How do I get started?

The first and most important operation is to make a backup of your Workbench disk, and I cannot stress this enough. While I was tutoring someone recently, a bug in Workbench 2's ED deleted the some essential software from a client's disk right in front of them. Embarrassing? Certainly, but had that not been a backup it would have been a disaster, and if it can happen to me...

What next?

If you intend to make any use of AmigaDOS in the future, you should make a new copy of Workbench and work on that. Boot from the copy and locate the Shell icon – it's in the system drawer. Now select Shell and use "Leave Out". This will ensure it's always there at the ready. Shell is a window on AmigaDOS and much more versatile than Workbench's "Execute Command".

Open the Shell and you will be presented with a window (called a Console or Virtual Terminal) and a message like this:

```
New Shell process 1
1.Workbench3>
```

The Shell process number can be just about anything – but in most cases you will start with Shell 1 (the actual number is arbitrary and need not concern you at this stage). Following that is a prompt made up from the current process number and current directory. These are AmigaDOS specifics that can change from machine to machine – so in this series I've adopted a universal prompt:

```
1>
```

Unless stated otherwise, you only enter the text after this. In all cases, when a prompt is shown, this is something you can enter in a Shell window. Other text is either an AmigaDOS response, or something you enter from a text editor. The meaning of this will become clear later. As long as you always keep a backup of the original Workbench disk, nothing can do any permanent damage.

If you have access to a modem, you can download *SeaShell* from the Amiga Shopper conference on CIX. It's a special protected version of the standard Shell, written with AmigaDOS commands, that offers a protected environment for experimentation. *SeaShell* tracks many AmigaDOS errors and gives extra help with command syntax.

If you are a relative newcomer to the Amiga, you probably think Workbench is something that just magically appears when you boot certain disks. If you still have a single drive system, you'll also have noticed that the machine constantly seems to want those disks back when you start programs.

In this article, I'll be looking at Workbench and bootable disks. Very little experience is assumed but you might need to read over the text several times to get the hang of the inter-related knowledge contained herein. Follow the instructions and you'll soon have the machine booting in seconds rather than minutes. To keep things brief, I'll assume you understand very basic terms such as "Open" and know what drawers looks like. This feature only applies to machines fitted with Workbench 2 and higher, but most of the techniques are similar on earlier systems.

Workbench is provided to do the simple, everyday tasks that we all take for granted: formatting and renaming disks, copying files, starting applications and so on. It's a protected environment; there's no shame in that – it's supposed to be that way. Graphical user interfaces (GUIs) are a relatively new idea, originated at Xerox PARC and popularised by Apple with the Macintosh system.

The Amiga was one of the earliest computers to offer a GUI as standard (Apple's Lisa was the first). However, it is the only business micro to come with a standard DOS GUI, an underlying DOS interface and full pre-emptive multi-tasking. The numerous PC clones are often offered in bundles with Microsoft Windows, but the integration is nothing like as sweet; Windows is a separate (memory hungry) application in its own right.

WORKBENCH AND AMIGADOS

Workbench is a window on the main AmigaDOS disk and "object" functions. The term object is very important because it can refer to more than one thing; Workbench objects represented by icons, and AmigaDOS objects only shown as pseudo icons. When you perform any operations, Workbench translates a menu selection into an equivalent AmigaDOS call and executes it. Some operations, such as Clean Up, are specific to Workbench although the support function, Snapshot, uses AmigaDOS too.

You can access single AmigaDOS commands from Workbench 2 using the special Execute Command... option. However, for the sake of this series, it is always better (and often necessary) to use the Shell directly. Workbench is always started from AmigaDOS and uses a great deal of AmigaDOS commands during its startup configuration – commonly called the startup-sequence.

For Workbench 2, the idea of editing the startup-sequence was discarded and an additional, optional, sequence was added: User-startup. There are a number of things you can do with User-startup, but one of the more useful ones is to produce a resident Workbench. A lot of things happen during the boot sequence, so the resident Workbench is not a universal panacea – but it can be very handy if you only have a single drive and plenty of memory (say an A1200).

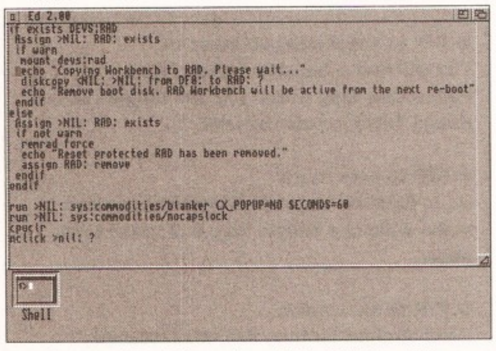
RAM AND RAD

Two "memory" disks are available for AmigaDOS and Workbench. RAM is, generally speaking, always available; RAD must be mounted first. Both "drives" work in a slightly different way, although as far as the system is concerned they are just AmigaDOS disks. (Exception: DISKCOPY does not recognise RAM as a valid device.) RAM expands and contracts according to the amount of data it currently holds and its contents are lost after a reset. RAD is always a fixed size and its contents are retained after a reset; also it behaves more like a "real" disk than RAM for the purposes of DISKCOPY and, to some extent, LIST too.

We'll concentrate on RAD here since it comes in a variety of flavours and needs different configuration depending on the release of Workbench you have. To make a bootable RAD disk we'll need to copy the entire contents of the main Workbench to it, and the fastest way to do this is track-by-track using DISKCOPY. On early releases, RAD was configured by default to allocate 242K of memory, not nearly enough for the super-fast boot disks we're looking for. On later versions RAD was increased to 880K in size – just what the doctor ordered.

Up to Workbench 2.05, RAD's configuration lived in a little file called the MountList – you'll find it in DEVS:. This is a simple text file that "programs" the MOUNT command to configure a number of optional devices. RAD's entry should look something like this:

```
RAD: Device = ramdrive.device
  BootPri = 6
  Unit    = 0
```



Adding the "flash" version of the RAD boot to User-startup on Workbench 3. Startup for the screen blanker and NoCapsLock can also be seen.

AmigaDOS MasterClass

MasterClass is intended for intermediate to experienced Amiga users and less description is given here than elsewhere. However, this month's example is versatile and usable even if you don't understand what is going on. The full script, complete with icon, is available from the *Amiga Shopper* conference on CIX.

AmigaDOS is an evolving system, and just when you thought it was safe to make some assumption, some clever dick goes and throws a spanner in the code. A typical example is the SEARCH command. As you probably already know, SEARCH looks for either text in an ASCII file or for a file: dependant on the operation. To refresh your memory, here are two examples:

```
1>SEARCH Code/FMU.C "/*" NONUM
; look for text
  /* FMU: Main code section */
  /* Version 1.00a */
  1>SEARCH SYS: SEARCH FILE ALL ;
find a file
  Workbench3.0:C/Search
```

There's nothing too surprising here, but from release 2, SEARCH can look inside binary files. (Previous versions were confused when confronted with a binary file and reported "line XX too long".) This might seem like a minor consideration, but it opens the door to some very interesting areas. For instance, you can now configure an ICONXed script from the icon's tooltype array. For example (if your clock is still in the Utilities drawer):

```
1>CD SYS:Utilities
1>SEARCH Clock.info "="
 2 .TOP=0
 2 .LEFT=0
 2  FORMAT=0
```

A good example of this technique can be demonstrated using a deceptively simple script to produce a digital clock – configurable from its Icon. This example is not intended to explore all the possibilities of the time functions – things like alarms and date/second suppression are possible. The clock should be saved in the Utilities drawer as DClock and you should make a duplicate of the Clock icon like this:

```
1>COPY clock.info to
DClock.info
```

Now either start IconEdit (from Workbench if you like) and load the DCLock Icon. You can change the image if you feel artistic, but you only have to change the icon's type to PROJECT. After saving the file, you should open the icon with Icons...Information. Now set the Default Tool to C:ICONX and remove all the original Clock tooltypes.

DClock has two tooltypes prefixed with a colon as follows:

```
:WINDOW=new window description
:TITLE= a sub heading title
```

The syntax for window can be any that used by NEWSHELL/NEWCLI window; title can be any text – without quotes. The default settings should be something like this:

```
:WINDOW=CON:10/10/220/40/DOS
Clock
:TITLE=From Amiga Shopper
```

The script could be extended to support a simpler entry system (TOP=, LEFT= etc.), but this would add to its length without adding extra functionality. You may wish to add these features for yourself. Interestingly enough, you can also execute DClock from the Shell using:

```
1>EXECUTE DCLOCK
```

Provided the directory has been set correctly, DCLOCK will read its configuration from its own icon.

HOW IT WORKS

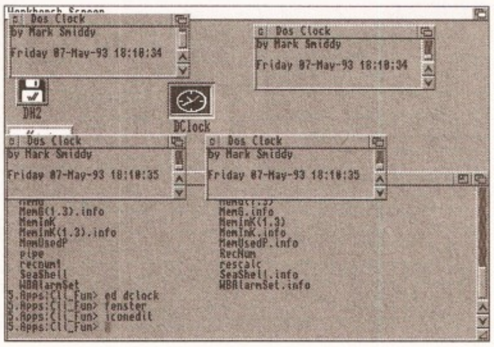
1–5) Form a standard header suitable for this type of script. A dummy key triggers variable substitution.

6) Write the first part of the run-time script, RT#. When expanded to file this part of the line reads:

```
newshell from t:cl5 window="
```

7) There's a lot more going on here than meets the eye. This line

continued over the page



Some evidence to prove that the DOS clock really does multi-task. This hardly seems useful since it gets rather slow under these conditions.

```
  Flags   = 0
  Surfaces  = 2
  BlocksPerTrack = 11
  Reserved = 2
  Interleave = 0
  LowCyl = 0  ;  HighCyl = 79
  Buffers = 5
BufMemType = 1
#
```

It is important to note that the BootPri entry is not present in the standard Workbench 1.3 mountlist. It must be in place and set to at least 6, as above, if the machine is going to boot from RAD.

From Workbench 2.1, RAD is moved into the DEVS/DosDrivers drawer of your storage disk. Under normal circumstances, you would probably copy the icon from Storage to the same place on the Workbench disk. RAD becomes available after a re-boot. For the examples detailed in this article, we're going to use a slightly different method. Rather than mounting RAD automatically, we're going to put the onus on the system to decide if that is necessary. If you have a late edition Workbench, you should place the RAD icon directly into the DEVS drawer.

CONFIGURING FOR AUTO-BOOT

Once RAD has been configured as described, you should make sure everything is working according to plan before editing the user-startup. First of all, we have to make RAD available and for Workbench 2.04 this is simply:

```
1>MOUNT RAD:
```

Things are slightly different for Workbench 2.1 and higher due to a slight change in the MOUNT command. Provided you have moved the RAD DOSDriver icon into the DEVS drawer, you should be able to mount RAD like this:

```
1>MOUNT DEVS:RAD
```

If all is well, you can proceed by copying the Workbench disk from the internal drive to RAD like this:

```
1>DISKCOPY DF0: TO RAD:
```

Follow the on-screen prompts to start the COPY (you should just have to press Return). When the copy is finished, remove the Workbench disk and re-boot the machine without disks in any drive; and it should boot in a few seconds from RAD. Workbench is now in memory and should work just like any normal drive, except that it's a lot faster. Switch off the machine for a few seconds to remove RAD before proceeding to the next stage.

EDITING USER-STARTUP

The next stage is to configure the User-Startup to perform all the steps described above automatically. The simplest form for this operation just mounts RAD and copies Workbench to it. This scheme is suitable for all versions, but a more powerful version is available.

Depending on what you have already installed, your Workbench may already have a User-startup. It doesn't matter, but the patch should be the first thing in the file. You can start editing the file by entering the following:

```
1>ED S:User-Startup
```

For Workbench 2.04, you can enter the program shown in Listing 1. The line numbers are for

JARGON BUSTING

ANSI – American National Standards Institute. Do not confuse this with ASCII which looks and sounds similar.

ASCII – American Standard Code for Information Interchange. A series of 127 numerical codes representing letters, special characters and control codes. ASCII is just about universal.

Console – a virtual terminal. In effect, a window on AmigaDOS. Every console window "thinks" it is the only program running on the computer, and that it has exclusive access to the keyboard and screen. The size of the console window is determined by user action or pre-programming of the Shell.

DOS – Device Operating System. (Also used for Disk Operating System). Broad term for the software driving a computer's user-level peripherals. In the Amiga sense, this refers to the disk filing system but shares control of printers, serial connections and even the keyboard and screen.

GUI – Graphical User Interface. Also used interchangeably with WIMP which refers to the same sort of thing.

Shell – a user console where AmigaDOS commands are entered, pre-parsed and edited.

WIMP – Windows, Icons, Menus and Pointers. Popular term from the late 80s to describe the "modern" graphical interfaces and the device used to control them.

continued from previous page

adds the remainder of the run-time module, RT#. This function uses command expansion with "`". The icon file belonging to DClock is searched like this:

```
search dclock.info :window=
nonum
```

The output produced is then inserted in the line, viz:

```
echo >>T:rt{$$} "
:WINDOW=CON:5/5/220/40/Dos
Clock/CLOSE/NOSIZE/SMART*""
first=10 noline
```

This is string-sliced using ECHO's FIRST option starting from just after the "=". The final output is therefore:

```
CON:5/5/220/40/Dos
Clock/CLOSE/NOSIZE/SMART"
```

(The extra arguments, CLOSE, NOSIZE and SMART, just make the window look better on screen.) When this is tacked on to RT#, a typical run will look like this.

```
newshell from t:cl5
window="CON:5/5/220/40/Dos
Clock/CLOSE/NOSIZE/SMART"
```

Don't panic if that makes your brain itch horribly. The code is the same for all TOOLTYPES; the only thing to watch is the value for FIRST positions the cursor at the correct point. This technique is clearer when applied to TITLE in this example.

8) This line extracts the title from the icon file and sets a variable, TIT# to that value. String slicing is used to separate the TOOLTYPE from the argument text: "TITLE=" from "DOS Clock".

9) Constructs line 1 of the CL# script. (A full example is given in Listing 5 below). This line clears the screen and switches the cursor off using ANSI (not ASCII) escape sequences.

10–11) Construct line 2 of CL#. This has to be done in two parts or the variable will be expanded during current script. It wouldn't matter here, but the technique is useful to bear in mind.

12) Adds line 3 to CL#.

13–14) Add line 4 to CL#. Note that this line is split over two lines to prevent the "`" triggering in the current script. When this line is executed in CL# the cursor is positioned at the start of line 3 and the current time printed.

15–16) Add the remainder of the script.

17) Executes the run-time script. This creates a new process using the window specification defined in the icon and runs a startup script that has just been created! As I said earlier, there's a lot more to this script than at first meets the eye.

LISTING 4: DCLOCK

```
1. .key dummy
2. .bra {
3. .ket }
4. resident c:wait
5. resident c:date
6. echo >T:rt{$$} "newshell from t:cl{$$} window=*"" noline
7. echo >>T:rt{$$} "`search dclock.info :window=
nonum`/CLOSE/NOSIZE/SMART*"" first=10 noline
8. echo >ENV:tit{$$} "`search dclock.info :title= nonum`"*" first=9
noline
9. echo >T:cl{$$} "echo *"**e[0;0H**e[J**e[0 p*" noline"
10.echo >>T:cl{$$} "echo *"**e[1;1H$" noline
11.echo >>T:cl{$$} "tit{$$}"
12.echo >>T:cl{$$} "lab start"
13.echo >>T:cl{$$} "echo *"**e[3;1H`" noline
14.echo >>T:cl{$$} "date`*" noline"
15.echo >>T:cl{$$} "wait 1 secs"
16.echo >>T:cl{$$} "skip start back"
17.execute t:rt{$$}
```

LISTING 5: CL5 PRODUCED BY DCLOCK

```
1. echo "*e[0;0H*e[J*e[0 p" noline
2. echo "*e[1;1H$tit5
3. lab start
4. echo "*e[3;1H`date`" noline
5. wait 1 secs
6. skip start back
```

reference only and should not be entered. (Make sure you save the file before leaving ED). The code for Workbench 2.1+ (Listing 2) is similar, however this configuration allows you configure RAD, boot or not, simply by dragging the icon in and out of the DEVS drawer.

A more powerful version is shown in Listing 3. This allows you to switch the RAD disk on and off by simply dragging RAD from DEVS and re-booting the machine. This is a compromise of sorts – I personally prefer the more elegant (and shorter) solution, but this does mean a power-down reset.

There is not enough room to explain how these startups work in any great detail, however the main points for the Basic 2.1 boot are as follows:

1) Checks if the RAD DOSDriver is present in RAD. If not, control jumps to Step 9 and does nothing else.

2) If the RAD DOSDriver is present, this checks if RAD is already mounted; in other words, if it has already been configured in a previous startup.

3) Step 2 generates a WARN condition if RAD is not already mounted and if this is the case, control continues to Step 4; otherwise it jumps to Step 8.

4) Mounts RAD from the DEVS drawer as described above.

5) Prints a simple progress message.

6) Starts DISKCOPY automatically and prevents it from displaying any progress messages.

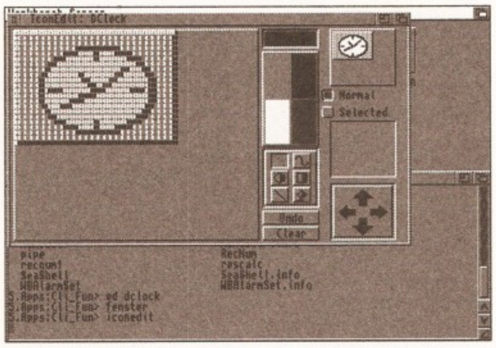
7) Reminds you to re-boot the machine. You might want to add a QUIT instruction after this line and a message to re-boot the machine with no disks in the drive.

8) Terminates the IF…ENDIF construct opened at Step 3.

9) Terminates the IF…ENDIF construct opened at Step 1.

CONCLUSION

This month you have learned how to make your machine configure to boot from RAD on the later Kickstarts. Making things as automatic as this on the earlier Kickstarts is more complex and a lot slower, although it is possible. In either case, the standard machine lacks a command to reset without using the normal keyboard sequence; this is something you have to do yourself, although there are routines in the Public Domain that can do this for you. Next month, (editor permitting) I'll present *SeaShell* – the easy to use, protected Shell for beginners. AS



Using IconEdit to create an icon for the Clock. This is the Workbench's own clock – but the icon must be saved as a Project type.

LISTING 1: BASIC RAD FOR 2.04

```
1. Assign >NIL: RAD: exists
2. if warn
3.   mount rad:
4.   echo "Copying Workbench to RAD. Please wait..."
5.   DiskCopy <NIL: >NIL: from DF0: to RAD: ?
6.   echo "Remove boot disk. RAD Workbench will be active from the
next re-boot"
7.   endif
```

LISTING 2: BASIC RAD FOR 2.1+

```
1. if exists DEVS:RAD
2.  Assign >NIL: RAD: exists
3.  if warn
4.   mount devs:rad
5.   echo "Copying Workbench to RAD. Please wait..."
6.   DiskCopy <NIL: >NIL: from DF0: to RAD: ?
7.   echo "RAD Workbench will be active from the next re-boot"
8.  endif
9. endif
```

LISTING 3: AUTO RAD FOR 2.1+

```
1. if exists DEVS:RAD
2.  Assign >NIL: RAD: exists
3.  if warn
4.   mount devs:rad
5.    echo "Copying Workbench to RAD. Please wait..."
6.   diskcopy <NIL: >NIL: from DF0: to RAD: ?
7.   echo "Remove boot disk. RAD Workbench will be active from the
next re-boot"
8.   endif
9. else
10. Assign >NIL: RAD: exists
11. if not warn
12.  remrad force
13.  echo "Reset protected RAD has been removed."
14.  assign RAD: remove
15. endif
16.endif
```

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Wilf Rees on Educating Amiga



"I feel no grief. Perhaps we will see the shackles of big daddy removed, and a new sense of purpose given to the two gurus who determine the future of the machine we hold so dear." Wilf

So Commodore Electronics have finally gone into liquidation – well, I suppose it was inevitable. No company can continue to carry losses of that magnitude without eventually succumbing to the inevitable. Perhaps it will herald a new, independent Commodore UK which isn't subject to the whims, dictation, and financial milking of a parent company which has failed to recognise market forces, competition from other platforms, and sensible value pricing.

I feel no grief, rather a sense of optimism. Perhaps we will see the shackles of big daddy removed, and a new sense of purpose given to the two gurus who determine the future of the machine we hold so dear. The only fear I hold is the old adage of securing the stable door once the horse has bolted. So why am I typing this comment on a PC, using *Ami Pro*, when my 1200 is less than a yard away? The answer is: it is better by a million miles than anything on the Amiga. None of the Amiga based software houses have done anything about this.

Getting personal, I got a call from a mate who runs an IT department in a college. "We're getting a Mac Network – want a few free Amiga 2000s?" he asked me. I collected three, all with hard-disks, 1.3 operating systems, and old 20Mb RNL drives, but they work. Fortunately, a nearby school had a fire, and all of their IT gear was written off so I bought a load of Archimedes 3000s, crap though they are, for a song. However, they all came with monitors so now my 2000s all work. New Workbench 2 ROMs are installed, and I'm looking for some cheap controller cards, SCSII drives and more memory.

Trouble is I'm fighting a losing battle. It was great a few years ago; Commodore employed a team of Educational Support Specialists. Regular visits from them gave me the impetus to encourage colleagues to ignore Local Authority advice on those awful Archimedes machines, buy Amigas, and give the kids a computer that was versatile, cheap, and did the business.

Sadly, all the ESSs were sacked in one of many 'rationalisations' and I was left trying to defend a machine which I knew needed no defence, but was losing ground to an advertising, marketing and pricing policy from competitors. What has also crushed the spirit is the emergence of PCs which are offering better value for money in terms of what they do, and their availability to Joe Public.

I still think my own 1200, which of course cost much less than a PC or an Archimedes, is infinitely better, but I'm in a quandary. The 020 processor was too slow, so I bought the new 030 50 MHz accelerator from GVP, along with the SCSII interface, and a multi-sync monitor, and an internal IDE drive. By now the total price is higher than a 486 DX2 66.

I want the kids at my school to understand how brilliant the operating system is on Amigas; what advantages there are with a true multi-tasking operating system, and how manipulation of files and data is much easier with my favourite machine. But sorry folks, the PCs at school are networked, the software for the majority of applications is better, and the price of them is plummeting. Listen Commodore! – you are losing what frail education market you have, and real enthusiasts and devotees, like me, are becoming utterly cheesed off by what seems irrational and arrogant behaviour.

If this is an opportunity to break away from whatever stranglehold the US had on you, and approach the future with a machine which we all believe is brilliant, do it, but do it with a philosophy which appears to be planned, coordinated, and based to embrace all of the potential the Amiga has. Don't just treat it as a games machine, but as a visionary concept which could hold its own alongside any competitor. Get your pricing right, not for 600s, but for the high-end 3000s and 4000s that can stuff PCs out of sight, and compete for markets such as mine – in education where the Amiga has a rightful place. P.S. Anybody want to buy an Archimedes 3000 really cheap? ***Wilf Rees***

Dave Winder on Pornographers and Bigots

People only have modems so they can get all that hard core pornography that is sitting on every BBS, don't they? If they aren't armchair pornographers then they are definitely swapping pirated software, aren't they?

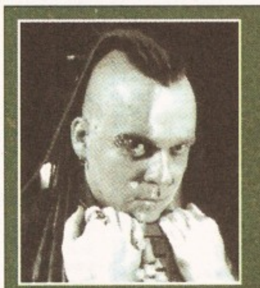
That's what you would be forgiven for thinking after reading most of the press coverage of comms. Comms, and the Internet in particular have become big news recently. Wherever you look in the "media" the Net pops up, be it on the TV, Radio, or in your newspaper or a glossy magazine. Most of this coverage at least mentions pornography, if not concentrates on it. Why? Surely even the most computer illiterate hack can see that computer communications form just another medium in which pornography can be distributed. Not even a very cost efficient medium at that. Think about it. To get a picture of "Dolly Delightful" you need a computer, a modem, terminal software, and a telephone. The majority of cases will need a credit card as well.

There are a number of online services which offer pornography, at a price, and they are all situated overseas. So to get that picture of our Dolly, you will have to subscribe to a pornographic BBS (anywhere up to, say, £100 per year), connect to them by means of an overseas telephone call (not cheap), and then download the dirty picture, which could take anything up to an hour depending on the speed of your modem and the size of the file (certainly not cheap). What all this adds up to is a damn expensive way of getting hold of some masturbation material. Why not just pop down to the newsagent and buy a magazine full of the stuff for a couple of quid?

Odd isn't it, that computers are portrayed as something evil just because of pornography. Odd isn't it, that books, or video, or satellite television aren't seen in the same light; more to the point that all mediums other than computers don't seem to make the news at all these days? Kids aren't "hooked on newsagents pornography," or "addicted to sexy satellites," are they! Could this have something to do with rabid technophobia? Because so many people know absolutely nothing about computers there is a tendency to be quite easily misled about their power and uses, and I'm afraid to say that many of my journalistic colleagues are guilty of lending a hand in this deception.

Isn't it about time that the media started looking at the positive side of comms? After all, 99 per cent of what goes on in Cyberspace is useful, positive stuff. For example, there is the research side of things, the social framework, the virtual communities, the online games, the people who fall in love over the Net, the people who conduct their businesses over the Net, the technical support offered over the Net, by the Goddess the list is almost endless. So why concentrate on pornography? Am I being ever so slightly cynical when I say this might be because it sells newspapers, or increases viewing figures and thus leads to increased advertising revenue? No I don't think I am. Of course the really ironic thing is that the same people who are up in arms about this subject, and want the computer networks controlled, are the same people who publish pictures of semi naked girls in their newspapers. Perhaps I am being even more cynical when I say that maybe the reason for these double standards is down to a fear that electronic publishing over the Nets could eventually all but destroy standard forms of news publishing, and anything that can try to control such a threat is going to be used.

Pornography isn't the real problem, but bigoted bureaucrats with a distinct lack of vision and a fear of change may well be. ***Dave Winder***



"The really ironic thing is that the same people who are up in arms about computer pornography are the very same bureaucrats who publish semi-naked girls in their newspapers." Dave

C PROGRAMMING



Toby Simpson demonstrates the importance of a good understanding of lists and nodes in helping you to improve your programming skills.

The Amiga operating system is a complex beast. Over the years it has managed to become much more complicated and keep up with development, without either requiring a total re-write, or causing huge amounts of software incompatibility with each upgrade. Users of A1200s with Kickstart 3.0 can still run software written nearly 10 years ago on Kickstart 1.0 and 1.1. One of the reasons for this is that it was so well designed in the first place, far in the distant past.

The core of your Amiga is the multi-tasking Executive. This is the bit in the middle which controls everything else, and which everything else is attached to in some way. The way in which it handles information is important to us, as it dictates how most data is dealt with inside your Amiga. One of the component parts to it all is the Exec list, and this is what we are going to deal with in this article; an understanding of lists will help all of your programming on the Amiga, particularly if you are working in 'C'.

What is a list? Well, in its simplest form it's exactly the image that the word "list" conjours up, a list of items. Let's think about a shopping list. You are off to Sainsbury's to get a few items: some peanuts, crisps, beer, Jack Daniels and cornflakes. Not exactly a healthy diet, but fun to consume nevertheless. Each one of the things you are planning to buy is a single item in the list. In Amiga terms a list inside your computer consists of a header to give information about the list, and then a chain of linked elements called nodes. We can think of each one of these nodes as one item in our list. Notice we said a *chain* of *linked* elements. Each node has a pointer to the next node in the list, and one to the previous one. This way, each node can be in a totally different area of your computer's memory, and we can still go along it and look at the items in the list. Because we also have a pointer to the previous item in our list, we are able to go backwards too. This may not sound too handy, but we'll explain why it is in a while. Have a look at the diagram below which is an illustration of how a list works. Since nodes are the most important part of a list, let's have a look at the structure of a possible node:

```
struct OurNode
  {
  struct  OurNode *on_Next;  /* Pointer to next
node (successor) */
  struct  OurNode *on_Previous;         /*
Pointer to previous node (predecessor) */
  char     *on_String;       /* Pointer to a
string */
  };
```

Let's look at this in more detail. There are two pointers to other node structures – one points to the next node in the list, and the other points to the previous one. Then we have a character pointer which will point to the name of an item in our shopping list. In this example, we'll say that if the value of on_Next is set to NULL instead of pointing to the next node, then that is the last node in the list. This way, we can search an entire list and find the last item by stopping when on_Next is NULL.

How would we create our shopping list? Well, first we would want to allocate some memory for a new node, and link it to the end of our list. Then we would allocate some memory for the item name, and put a pointer to that into the on_String part of the node – a brief search down the list until we find the end, and then insert it by pointing the current last item in the list to the new item, and setting the previous node value (on_Previous) of the new node to point to its parent. Let's work through a simple routine to list the items in our shopping list:

We'll want to define a node which we can use to point to the current item in the list.

```
  struct        OurNode *list_node;
```

Just like Amiga lists, our list has a header at the beginning, and this does not contain an item in our shopping list, but it does point to the first one. It's a global variable, and it consists of a single OurNode structure. We can check if there are any items in the list by simply checking its on_Next value. If it's NULL, then there are no items yet – if not, then that is our first item:

```
 if (shopping_list->on_Next)
   {
   list_node = shopping_list->on_Next;
```

list_node now points to the OurNode structure of the first item in the shopping list. Now we can start a while loop to list them all:

```
   while (list_node)
     {
```

Here, we show the item name itself:

```
       printf("Item = %s\n", list_node-
>on_String);
```

Then we move to the next item in the list by setting list_node to point to the on_Next value for the current node. If there isn't a next node, then on_Next will contain zero, and so will list_node also. This causes the while loop to stop neatly when the list is shown.

```
      /* Move to next node in list */
      list_node = list_node->on_Next;
      }
   }
```

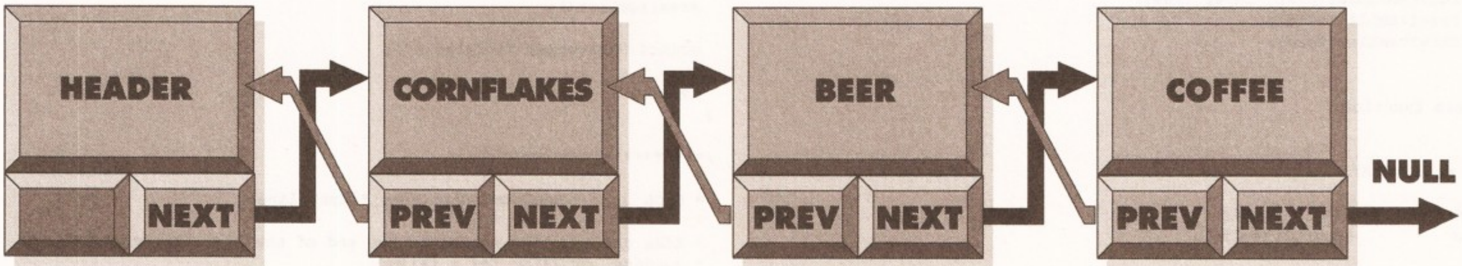
This else bit is tied to the if statement above which checked to see if there were any items in the list. If not, then a message is shown:

```
 else
   printf("No items in list\n");
```

As you can see, lists are quite simple – we can easily move up and down them by simply referring to the on_Next and on_Previous values, and when we reach a NULL in either of these, we know we're at the end of the list.

So, why are we holding the previous and next values? Imagine you'd entered cornflakes, beer and coffee into your shopping list and you wanted to remove beer, having just discovered there is a six-pack left in the fridge from last night. With our list, it's really easy. We hunt down the beer item, like this:

THE WORKINGS OF A LIST



Each node has a pointer to the next node in the list, and to the previous one. This way each node can be in a totally different area of your computer's memory, and we can go along it and look at the items in the list. In this example, we'll say that if the value of on_Next is set to NULL instead of pointing to the next node, then that is the last node. This way we can search an entire list and find the last item when on_Next is NULL.

```
struct OurNode *beer_hunt;
struct OurNode *prev_node;
struct OurNode *next_node;
BOOL done = FALSE;

/* Point to the first node */
beer_hunt = shopping_list->on_Next;

while (!done)
 {
  /* If this is a null node, we reached the end
of the list without finding the beer */
  if (beer_hunt == 0)
   {
    printf("Can't find the beer\n");
    return;
   }

  /* If this item is 'Beer', set the done
variable to zero and exit the loop */
  if (!(strcmp(beer_hunt->on_String, "Beer")))
    done = TRUE;
  else
    /* Move to the next node */
    beer_hunt = beer_hunt->on_Next;
 }

/* At this point, beer_hunt points to the node
for Beer */
```

Now we've found beer, we can set about removing it. We can find the item before beer and after beer by looking at the current values for on_Next and on_Previous. To remove this item, we make the previous item point to the next one, and vice versa, thus bypassing beer altogether. Cornflakes will now point to coffee. We can then free the memory occupied by beer with two free statements to free the memory holding the string "Beer" and the memory holding its node:

```
/* Get pointers to the previous and next */
prev_node = beer_hunt->on_Previous;
next_node = beer_hunt->on_Next;

/* Now set the previous one to point to the
next and visa versa */
prev_node->on_Next = next_node;

if (next_node)
  next_node->on_Previous = prev_node;

free(beer_hunt->on_String);
free(beer_hunt);
```

And that is it – an item removed from the middle or the end of the list. It works for items at the end of the list because their on_Next values are set to zero, so in this case if beer was the last item, then we would set the previous to point to the next (which was zero) which re-terminates the list very nicely for us.

The above code could easily be adapted to be a more sensible routine, perhaps one which we might call like this:

```
if (DeleteListItem("Beer") == 0)
  printf("Could not find Beer in the list\n");
```

In the same way we can remove items from a list; it's just as easy to insert them, just by creating a

THE SHOPPING LIST LISTING

```
/********************
 *
 * $VER: shopping_list.c 1.00 (22.4.94)
 *
 * By Toby Simpson, For Amiga Shopper
 *
 * To compile under SAS C type:
 *   sc shopping_list.c link
 *
 * To compile under DICE type:
 *   dcc shopping_list.c -o shopping_list
 *
 * The program to run (From the shell) will be called "shopping_list"
 */

#include <stdlib.h>
#include <stdio.h>
#include <string.h>

#include <exec/exec.h>

/*
** Definitions and global variables:
*/
struct          OurNode
 {
  struct        OurNode *on_Next;
  struct        OurNode *on_Previous;
  char          *on_String;
 };

struct          OurNode        *shopping_list = NULL;

/*
** Function prototypes:
*/
BOOL AddItemToList(char *input_line);
void FreeItemList(void);
void ShowItemList(void);

/*
** Main function:
*/

void main(void)
{
  BOOL          done = FALSE;
  char          input_line[256];

  /*
  ** Create our first node to act as a list header:
  */
  shopping_list = malloc(sizeof(struct OurNode));
  if (shopping_list == NULL)
   {
    printf("Cannot allocate memory for list header\n");
    return;
   }

  /* Set entire node contents to zero */
  memset(shopping_list, 0, sizeof(struct OurNode));

  while (!done)
   {
    /*
    ** Enter an item for the shopping list:
    */
    printf("Enter an item. Type 'quit' to exit and show the list\n");
    gets(input_line);

    if (!(strcmp(input_line, "quit")))
      done = TRUE;
    else
     {
      /*
      **          A new item to add!
      */
      if (AddItemToList(input_line) == 0)
       {
        printf("Ran out of memory, could not add item.\n");
        done = TRUE;
       }
     }
   }

  /*
  ** Show the list before exiting
  */
  ShowItemList();

  /*
  ** All done, free all memory occupied by our list
  ** and then exit:
  */
  FreeItemList();

  printf("\nProgram Finished\n");

  return;
}

/**********************
 *
 * BOOL          AddItemToList(char *input_line)
 *
 * Adds the supplied string to the end of the list. Returns TRUE for
 * success, or FALSE for a failure.
 */

BOOL AddItemToList(char *input_line)
{
 struct         OurNode *new_node;
```

new one, and then deciding which pair of nodes you'd like to insert it between, and set the first one's on_Next to point to the new node we're inserting, and the next one's on_Previous value to point to the new node also. Then we just set the new nodes on_Next and on_Previous to point to its new parent and child node.

Those of you who read last month's C Programming will have been introduced to basic sorting techniques, and examples of sorting a simple list of names. Our list in that case did not have any previous or next links; it was just an array of character pointers. To insert a new string in the middle would require finding the item to remove, and then moving every item after it down one to take up the space. If you wanted to remove the first name in a list of several thousand, that could take some time. With our node system, it's a matter of simply bypassing the item to remove. Anyway, to get back to the point of mentioning sorting; those of you interested may realise that sorting a list is just as simple, you don't move anything, just move the on_Next and on_Previous values around.

Amiga lists, as managed by the Exec are a little more complex, but thankfully not much so. Amiga lists are found everywhere; they are used to manage pretty much every list of anything inside your computer, from a list of memory allocations to lists of messages being passed between tasks. An understanding of how they work will help you greatly, as you'll find out. There are a whole group of functions available in the exec.library especially designed to deal with lists, including routines to insert and remove items. Often, however, you'll find that you might want to construct your own simple lists, and the example below should give you some ideas for this purpose. We've seen how our node looks – what does the exec node look like? Pretty much the same really, except it contains some extra values for setting what sort of node it is, and what priority the operating system will treat it as (when dealing with your own lists, you don't need to worry about either of these). The exec list header is definitely a little more advanced than ours, and not only points to the first item in the list, but also the last, thus linking the whole thing together at both ends which in some cases can be extremely useful.

Have a good look at the include file <exec/nodes.h> to see what an exec Node structure looks like, and you can study the exec.doc autodoc file to have a look at the list handing functions, such as Insert() and Remove(). The includes and autodocs are available as part of the Amiga Developer Update 3.1.

Next month we'll look at some of the most common C programming pitfalls, discuss pointers in much greater detail, and show examples of where we might use them. AS

A POINTER OR TWO ABOUT POINTERS

What are pointers? Well, in their very simplest form pointers point to something – no, I'm not being patronising. A pointer is a special kind of variable in C, and it contains a memory address where some data is stored. In C you can specify what kind of data the pointer points to. For example, you might have the string "Hello World" somewhere in memory, and set the pointer to point to it. The joy of pointers is that they are easy and quick to manipulate. They are also one of the major sticking points for beginners, and one of the simplest ways of introducing nasty bugs into your program.

```
 struct       OurNode *search_node;
 char         *list_item;

 /*
 ** Allocate memory for a node, and return if we could not.
 */
 new_node = malloc(sizeof(struct OurNode));
 if (new_node == 0)   return FALSE;

 /*
 ** Allocate memory for the list item (one byte more than the
 ** length of the string to take into account the zero at then
 ** end of it)
 */
 list_item = malloc(strlen(input_line) + 1);
 if (list_item == NULL)
   {
   free(new_node);
   return FALSE;
   }

 strcpy(list_item, input_line);

 /*
 ** Put the string pointer into our new node:
 */
 new_node->on_String = list_item;

 /*
 ** Hunt down the end of the current list:
 */
 search_node = shopping_list;

 while (search_node->on_Next)
   search_node = search_node->on_Next;

 /*
 ** 'search_node' is the last node in the list, insert us here.
 */
 search_node->on_Next = new_node;
 new_node->on_Previous = search_node;
 new_node->on_Next = NULL;

 return TRUE;
}

/**********************
 *
 * void        ShowItemList(void)
 *
 * Shows the items in the list on the console window.
 */

void ShowItemList(void)
{
 struct       OurNode *list_node;

 if (shopping_list->on_Next)
   {
   /*
   ** List items now in list
   */
   list_node = shopping_list->on_Next;

   while (list_node)
     {
     printf("Item = %s\n", list_node->on_String);

     /* Move to next node in list */
     list_node = list_node->on_Next;
     }
   }
 else
   printf("No items in list\n");

 printf("End of list\n");

 return;
}

/**********************
 *
 * void        FreeItemList(void)
 *
 * Frees memory occupied by our list
 */

void FreeItemList(void)
{
 struct       OurNode *free_node;
 struct       OurNode *next_node;
 int          list_total = 0;

 free_node = shopping_list;

 while (free_node)
   {
   /* Fetch next item if any */
   next_node = free_node->on_Next;

   /* Now kill this item */
   free(free_node->on_String);
   free(free_node);

   /* And proceed to next */
   free_node = next_node;

   list_total++;
   }

 printf("Memory freed, %ld item(s) were in the list.\n", list_total-1);

 return;}
```

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Your at-a-glance guide to every Amiga user group in the world.

SOUTHEAST AND EAST

Addlestone 1–1 Amiga Club. Contact Peter Duckett ☎ 0932 855834 after 8pm.

Ashford Kent Youth Computer Group. Contact Jim Fanning ☎ 0233 629804.

Banstead Limited Edition Software. Contact Les, 28 Congcroft Avenue, Banstead, Surrey SM7 3AE.

Brentwood Hermit Computer Club. Contact John Maynard ☎ 0277 218897.

Brighton Hanover Computer Club. Contact Colin Jones ☎ 0273 602834.

Bromtard Better Than Life. Contact Mark Waters, 7 Linton Downs, Bromtard, Herefordshire HR7 4QT.

Camberley Camberley User Group. Contact F Wellbelove ☎ 0252 871545.

Cambridge Cambridge Sixty-Eight Group (CASE). Contact EPL Rowell ☎ 0954 210692.

Chesham Beaconsfield and District CC. Contact Philip Lishman ☎ 0494 782 298.

Clacton Cheapo PD Club. Contact Jason Meachen, Ivy Cottage, Chapel Road, Beaumont, Clacton, Essex CO16 0AR.

Coulsdon The Crumblies. Contact Frank Barron ☎ 081 668 7695

Coventry Cov and Warb Commodore Computer Club. Contact Will Light ☎ 0203 413 511.

Enfield Enfield Amiga Club. Contact Sean Clifton ☎ 081 8042867

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Gerrards Cross Chic Computer Club. Contact Steve Winter ☎ 0753 884473.

Hastings Computer Club. Contact ☎ 0424 421480.

Horsham Amiga Zone. Contact Gareth and Raymond, 7 Swindon Road, Horsham, W. Sussex RH12 2HE.

Ipswich Not the Night. Contact Andrew, 8 Lanark Road, Ipswich, Suffolk IP4 3EH.

Leigh-on-Sea Sensible. Contact M Street, 158 Hadleigh Road, Leigh-on-Sea, Essex SS9 2LP.

Leigh-on-Sea The Swop Shop Club. Contact Ian Prentice ☎ 0702 710267.

London (East Ham) Amigaholics Club. Contact Kevin Bryan ☎ 071-580 2000 Ext 240.

London (Hampstead Garden Suburb) Amiga Club. Contact Imp ☎ 081 455 1626.

London (Winchmore Hill) Access Information Technology.Contact Darren ☎ 0956 229729.

London Twilight. Contact 13 Mavis Court, Ravens Close, London NW9 5BH.

Luton Luton Amiga Users Group. Contact Dave ☎ 0582 502806.

Mitcham PD for Beginners. Contact M Macias, 48 Lavender Grove, Mitcham, Surrey CR4 3HU.

Mundesley APDEG (Amiga Public Domain Exchange Group).Contact Richard Brown ☎ 0263 720868.

Newington Sittingbourne Co-op Amiga Club. Contact Andy ☎ 0795 842608.

Norwich AGA Exchange. Contact K. Phillips, 18 Brownshill, Cromer, Norwich NR27 0QA.

Norwich Magic Windows. Contact Frame, 26 St Benets Road, Stalham, Norwich, Norfolk NR12 9DN.

Orpington ICPUG South East. Contact Ien Beard ☎ 0689 830 934.

Romford Digital Disk Amiga. Contact David Cowell ☎ 081 590 2546.

Rye Rye Amiga Group. Contact Oliver Campion ☎ 0797 222876.

Southampton Blitz programming Club. Contact mr D Collins, 6 Bentley Green, Southampton SO18 5GB.

Southend-on-Sea Southend Team. Contact ☎ 0702 333974.

Sutton Agnus. Contact Philip Worrel, 115 Brocks Drive, North Cheam, Sutton, Surrey SM3 9UW.

Thetford Bizart Diskmag. Contact Stephen Marghan, Timberton House, The Mount, Buckenham Tofts, Thetford, Norfolk IP26 5HP.

Thornton Heath AmigaBASIC club. Contact: Imran Ahmad ☎ 081 689 9102.

Watford Hertfordshire Amiga Users Group. Contact Keith Alexander ☎ 081 421 1784.

West Watford AmigaSoc. Contact Neil Cartwright ☎ 0923 248483.

Witham Amiga Witham Users Group. Contact K Anderson ☎ 0376 518271.

Yarmouth Robotronix Amiga Club. Contact P Symonds ☎ 0493 667161

SOUTHWEST

Bodmin Amiga Users Klub (Bodmin). Contact Jack Talling, 1 Windsor House, 19 Castle St, Bodmin, Cornwall PL31 2DX.

Bournemouth Bournemouth Amiga Club. Contact P Chamberlain ☎ 0202 296714.

Bristol Avon Micro Computer Club. Contact Roger or Bob ☎ or Fax 0272 311642.

Bristol Bristol Amiga Club. Contact 3 Parkstone Avenue, Horfield, Bristol BS7 0BX.

Bristol EmuSoft. Contact Nalpex, 48 Longhandstones, Cadbury Heath, Bristol BS15 5AP.

Bristol Game Swap Club. Contact Ade Ajidahun ☎ 0272 240399

Dukinfield C.C. Swapshop. Contact Tom Hampson ☎ 061 339 9488.

Exeter Exeter 16-bit User Group. Contact Andrew Deeley or Phil Treby at 25A Gloucestershire Rd, Exwick, Exeter, EX4 2EF.

Reading Charlies PD. Contact Charles Read, 10 The Cedars, Tilehurst, Reading, Berks RG3 6JW.

Salisbury CHUD. Contact Mr M Sellars ☎ 0980 33154.

Taunton Imagine Object Makers. Contact Charles Mo, 16 Calder Crescent, Taunton, Somerset TA1 2NH.

Torquay Ami-Info. Contact Paul Caparn, Homeside, Higher Warberry Road, Torquay, Devon TQ1 1SF.

MIDLANDS

Birmingham 68000 in Birmingham. Contact Mike Bedford–White, 16 Westfield Rd. Acocks Green, B'ham B27 7TL.

Birmingham Software Exchange Service. Contact Michael Pun ☎ 021 459 7576.

Coventry Coventry and Warks Commodore Computer Club. Contact Will Light ☎ 0203 413511.

Hereford Hereford Amiga Group Help. Contact John Macdonald ☎ 0981 21414.

Loughborough BR & CJ Computer Club. Contact B Robinson ☎ 0392 72889 or 03922 841296.

Melton Mowbray Melton Amiga Users. Contact Stephen Mowbray ☎ 0664 63421.

Nottingham East Midlands Amiga User Group. Contact Richard Haythorn ☎ 0602 298075.

Solihull Deluxe Cheats Disk User Group. Contact Steven Frew, 96 Campden Green, Solihull, West Midlands B92 8HG.

Solihull Sid The Kid Amiga. Contact Sid Reeves, ☎ 021 705 8619.

Solihull Solihull Computer Users Group. Contact Rich or Lee, 41 Leafield Road, Solihull, W. Midlands B92 8NZ.

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Witney Cacophony (Unlimited). Contact Mark Wickson, 49 Perrott Close, North Leigh, Witney, Oxon OX8 6RU.

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Balby Warpdrive. Contact B Scales ☎ 0302 859715.

Barnard Castle Amiga Users' Club. Contact Paul Kellett 67 Green Lane, Barnard Castle, County Durham DL12 8LF

Barnsley Amiga Programmers' User Group. Contact Andrew Postill, 2 Selby Road, Newlodge, Barnsley, South Yorkshire S71 1TA.

Catterick Champion PD Club. Contact Steve Pickett, 31 Somerset Close, Catterick, N Yorkshire DL9 3HE.

Chester-le-Street Chester-le-Street 16-Bit Computer Club. Contact Peter Mears ☎ 091 385 2939.

Darlington Darlington Commodore Users Club. Contact Steve Wheatley, 1 Ruby St, Darlington, Co Durham DL3 0EN.

Darlington Jemsoft Amiga Users. Contact Danwood, 3 Cavendish Drive, Darlington, Co Durham DL1 2GQ.

Darlington Northern Amiga Users Group. Contact Chris Wiles PO Box 151, Darlington, County Durham DL3 8YT.

Durham The Amiga Club. Contact G Starling, 31 Pine Lea, Brandon, Durham DH7 8SR.

Harrogate Club 68000. Contact Chris Hughes ☎ 0423 891910.

Houghton-le-Spring Club Amiga. Contact Chris Longley, 5 Bowes Lea, Shiney Row, Houghton Le Spring, Tyne and Wear.

Keighley Pennine Amiga Club. Contact Neville Armstrong ☎ 0535 609263.

Mickley Nothing But AMOS Monthly disk magazine. Contact Neil Wright ☎ 0661 842292.

North Berwick East Lothian Amiga Group. Contact Mr J Curry 0620 2173.

Otely Harley's PD Swaperama. Contact G Varney ☎ 0943 466896.

Rotherham Software City. Contact N Richards ☎ 0709 526092.

Sheffield Steel PD. Contact James Whitehead, 33 Middle Cliffe, Drive Crowedge, Sheffield S30 5HB.

Spalding TDM. Contact Gedney Marsh, Spalding, Lincs.

Sunderland Blitter. Contact Philip Kruman, 213 Fordfield Rd, Sunderland SR4 0HF.

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Skelmersdale Computeque. Contact Steve Lalley ☎ 0695 31378.

Stamford Under 18 Only. Contact Joe Locker ☎ 0780 64388

SCOTLAND

Angus Angus Amiga CDTV club. Contact J Robertson ☎ 0356 623072.

Bathgate Lothian Amiga Users Group. Contact Andrew Mackie, 52 Birniehill Ave, Bathgate, W Lothian EH48 2RR.

Cowdenbeatrh Amiga FX. Contact Ryan Dow ☎ 0383 511 258.

Dundee Tay-Soft PD Club. Contact Dave Thornton ☎ 0382 505437.

Dunfermline Dunfermline Sound & Vision Club. Contact Stan Reed, 7 Maxton Place, Rosyth, Dunfermline, Fife KY11 2DG.

Edinburgh Edinburgh Amiga Club. Contact Stephen Fradley ☎ 031 555 1142.

Edinburgh Edinburgh Amiga Group. Contact Neil McRea, 37 Kingsknowe Road North, Edinburgh EH14 2DE.

Glasgow Amiga Helpline. Contact Gordon Keenan, Amiga Helpline, 6 Skirsa Square, Glasgow G23.

Inverness Highland PD.Contact David Paulin ☎ 0463 242431.)

Johnstone Using AMOS. Contact Colin McAllister ☎ 0505 331342.

Perth Perth and District Amateur Computer Society. Contact Alastair MacPherson 137 Glasgow Rd, Perth.

Redburn Redburn Computer Users Group. Contact Ruby Anderson ☎ 0294 313624.

WALES

Bangor Amiga Maniacs. Contact Johnny, 8 Tan-y-Grais, Caernarfon Rd, Bangor LL57 4SD.

Carmarthen Bloomfield Video and Computing. Contact Mrs Beryl Hughes ☎ 0267 237522.

Clwyd ShieldSoft PD. Write to 26 Doren Avenue, Rhyl, Clwyd LL18 4LE, ☎ 0745 134 3044.

Clwyd Solo (Amiga). Contact Mike, 26 Doren Avenue, Rhyl,

Clwyd LU8 4LE. ☎ 0745 343044

Neath Amiga Navigation. Contact Dave Thomas 4a, Allister St, Neath, W Glamorgan.)

Powys Blue Bedlam.. Contact Michael Grant ☎ 0873 811791.

SPECIAL INTERESTS, BBSs

1520 Plotter Group (ICPUG) John Bentley ☎ 06286 65932. (AS40)

1520 Plotter Group. Contact John Bentley ☎ 06286 65932.

Amiga Buzz BBS. Contact David Clift on 0924 491 461.

Angus Amiga Musicians Club. Contact Gavin Wylie, Guthrie Street, Carnoustie, Angus.

Atlantic Wave BBS ☎ 0462 481745 (300 – 2400 baud 8N1) 24 hours a day.

Basingstoke AMOS Programmers Exchange. Contact J Lanng, 7 Majestic Rd, Hatch Warren, Basingstoke, Hants RG22 4XD.

Bidwell BBS. Contact SYSOP Mark Lunt Modem 0582 863 906.

Birmingham The Junction Box BBS. Contact mark Pegler ☎ 021 321 2235.

Borders Teri-Odin BBS. Contact Derek Scott ☎ 0450 73071.

Branston Fen Amiga Boatowners. Contact D Beet Lock, Branston Fen, Lincolnshire LN3 5UN.

Braunston Nr Daventry GFA Basic Forum. Contact J Findlay ☎ 0788 891197

Braunston, Nr Daventry Amiga E Support Group. Contact John Findlay ☎ 0788 891197.

Broadstairs AMOS Programmer Club. Contact Gareth Downes-Powell, 6 Brassey Avenue, Broadstairs, Kent CT10 2DS. (AS40)

Camberley Independent Commodore Products Users Group. Contact Fred Wellbelove ☎ 0252 871545

Chelmsford Independent Commodore Products Users Group. Contact David Elliott ☎ 0245 328 737

Coventry Independent Commodore Products Users Group. Contact Will Light ☎ 0203 413511

Cumbria (Barrow-in-Furness) The Power Plant BBS. Contact Neal Postlethwaite ☎ 0229 431590.

Dublin Independent Commodore Products Users Group. Contact Geoffrey Reeves ☎ 010 353 1 288 3863

Exeter Independent Commodore Products Users Group. Contact John Buckle ☎ 0392 214760

Glasgow 24-bit Club. Contact Gordon Keenan, 24-bit Club, 6 Skirsa Square, Floor 1, Glasgow G23.

Glasgow Action Replay Users Club. Contact Gordon Hagan, 66 Muirside Avenue, Kirkintilloch, Glasgow G66 3PR.

Highfields CDTV User Group. Contact Gary Ogden, ☎ 0785 227059.

Highlander BBS. Contact Alan Walker, Mark Price ☎ 0452 384702 & 0452 384557.

Impulse BBS. Contact James Norris ☎ 081 698 8978.

Lingfield In Touch Amiga. Contact P Allen, 0342 835530, PO Box 21, Lingfield, Surrey RH7 6YJ.

Liverpool Nickelodeon BBS. Contact SYSOPS Mark Williams, Tony Ross ☎ 051 709 8508 (Liverpool).

London (Richmond) Micro Academy. Contact Don Pavey ☎ 081 878 1075.

London Independent Commodore Products Users Group. Contact the Membership Secretary ☎ 081 651 5436 (Fax 081 651 3428).

London On-Line Network BBS. Contact ☎ 081 539 6763 (London).

Look Northwest BBS. Contact ☎ 0282 698380 or 0282 619518.

Lothian Independent Commodore Products Users Group. Contact Andy Ruddon 65 Drum Brae Terrace, Edinburgh EH4 7SF.

Macclesfield Independent Commodore Products Users Group. Contact Peter Richardson ☎ 0298 23644

Maidenhead Independent Commodore Products Users Group. Contact Mike Hatt ☎ 0753 645 728.

Manchester CDTV Users Club. Contact Julian Lavanini, 113 Fouracres Rd, Newall Green, Manchester M23 8ES.

Mid Thames Independent Commodore Products Users Group. Contact Mike Hatt ☎ 0753 645728

New Whittington Digital Music Club. Contact Roger Hunt ☎ 0246 454280.

Normanton BASIC Programmers' Group. ContactMark Blackall ☎ 0924 892106.

Plymouth Pilgrims BBS. Contact Jon Wickett ☎ 0752 366 939.

Rochford Ray Tracers. Contact Neil Hallam, 12 Meesons Mead, Rochford, Essex SS4 1RN.

Romford Phoenix Demo. Contact Frank ☎ 081 597 4661.

Rotherham Marksman (Trojan Phazer user group). Contact David Green, 67 Thicket Drive, Maltby, Rotherham, S Yorkshire S66 7LB.

Solent Independent Commodore Products Users Group. Contact Anthony Dimmer ☎ 0705 254969

South Mostly Harmugs BBS. Contact Lee Sanders ☎ 0705 614 824.

South East Independent Commodore Products Users Group. Contact Len Beard ☎ 0689 830 934.

South Wales Independent Commodore Products Users Group. Contact Mike Bailey ☎ 0446 775287

South West Independent Commodore Products Users Group. Contact Peter Miles ☎ 0297 60339

Stevenage Independent Commodore Products Users Group. Contact Brian Grainger ☎ 0438 727925

Stoke-on-Trent Independent Commodore Products Users Group. Contact David Rose ☎ 0782 815589.

Swindon Amiga Video Producers' Group. Contact J Strutton ☎ 0793 870667 before 9pm.

Swindon MUG – MED Users Group. Contact Richard Bannister, 6 Glevum Road, Stratton St Margaret, Swindon, Wilts SN3 4AF.

System One BBS. Contact ☎ 0743 791501.

The Cartoon BBS. Contact the Bartman ☎ 071 635 0592.

Thetford CD BBS. Contact Paul Morris ☎ 0842 763639.

Trick or Treat II BBS. Contact Mark Meaney ☎ 0703 391 797.

Wallington Bible Bureau.Contact AD ☎ 081 669 7485.

Ware Gamer-Link. Contact Stu, 28 Churchfield, Ware, Herts SG12 0EP.

Warlock BBS. Contact Mr Manglin ☎ 031 659 5806

Warrington The CDTV Revolution. Contact Lee Beckett ☎ 0925 268819.

Watford Independent Commodore Products Users Group. Contact Bob Rigby ☎ 0923 264510

West Riding Independent Commodore Products Users Group. Contact Kevin Morton ☎ 0532 537318

Wigan Independent Commodore Products Users Group. Contact Brian Caswell ☎ 0942 213402

Witham Video Visuals. Contact Chris Brown, 4 Lavender Close, Witham, Essex CM8 2YG.

Workington AMOS Programmers Group. Contact John Mullen at 62 Lonssdale St, Workington, Cumbria CA14 2YD.

OVERSEAS

Australia Amiga Users Group of Western Australia. Contact Bill Sharpe-Smith PO Box 595, Cloverdale WA 6105 Australia.

Australia Comp-U-Pal. Contact Comp-U-Pal, 116 Macarthur Street, Sale, Victoria 3850, Australia.

Belgium AUGFL vzw. Contact Lieven Lema, Meesberg 13, 3220 Holsbeek, Belgium.

Denmark Danish AMOS user group. Contact Tom Poulsen, DABG, postbox 127, 2640 Hedehusene, DK Denmark.

France 16-32 Micro. Contact F Moreau, 132 rue Jean Follain, 50000 Saint-Lo, France ☎ 315220 02.

France Maritime Amiga Club. Contact CDR K Osei, GN Ships Refit Office, 51 Rue de la Bretonniere, 50105 Cherbourg, France. ☎ 33 33225447.

Germany Royal Air Force Amiga Club. Contact Stan Young, HMF RAF Laarbruch, BFPO 43.

Germany Worldwide PD Club. Contact Dave White, Berliner Strasse 39, 40880 Ratingen, Germany ☎ 02102 499729 (Germany).

Gibraltar Gibraltar Amiga Users Club. Contact David Winder, 7 Lime Tree Lodge, Montagu Gardens, Gibraltar ☎ 010 350 79918.

Greece Amiga Athens club. Contact Stefanos Papamichael, 9 Derfeld Rd, Patisia, 11144 Athens, Greece ☎ 01/2027973.

Greece Amiga Pros User Group Greece. Contact Stefanos Siopoulos, 52 Silivrias Str., N. Smyrni 17123, Athens, Greece, ☎ 01/9349963.

India Indian Amiga Friends. Contact Bilal, 46 Paragon 405 Lokhandwaza Complex, Andheri (W), Bombay-400058.

Ireland Amiga Addicts. For info SAE to A Minnock, Clonkelly, Binn, Co Offaly, Ireland.

Ireland AMOS Users.Contact Brian Bell, 8 Magnolia Park, Dunmurry, Belfast BT17 0DS.

Ireland City Centre Amiga Group. Contact Patrick Chapman, 70 Ballygall Crescent, Finglas East, Dublin II, Ireland, ☎ 345035.

Ireland CUGI Commodore Users Group of Ireland. Contact Geoffrey Reeves, c/o St Andrew's College, Booterstown Avenue, Blackrock, Co Dublin. ☎ +353 1 288 3863.

Ireland Navan Computer Club. Contact Mark Arnold, Cannistown, Navan, Co Meath, Eire ☎ 046 21078.

Ireland Northside Amiga Group. Contact William Kelling, 10/A Rainsford Avenue, Dublin 8, Ireland ☎ 01 532 807.

Ireland Software Exchange Club. Contact Michael Lacey, Fern's Post Office, Enniscorthy, Co. Wexford, Republic of Ireland.

Malta HTS (Malta). Contact K Cassar, Block 1 Flat, 6 H E Hal-Tmiem, Zejtun ZTN07 Malta ☎ 674023.

Malta Malta Amiga Club. Contact Zappor, PO Box 39, St Julians, Malta, ☎ 440453

N Ireland N. Ireland Amiga User. Contact Stephen Hamer, 98 Crebilly Rd, Ballymena, Co Antrim BT42 4DS.

N Ireland Digital Intensity (diskmag). Contact Simon Denvir, 40 Old Cave Hill Rd, Belfast BT15 5GT.

Portugal Software Asylum. Contact Sid Samdres, Apartado 6156, 3000 Coimbra, Portugal ☎ (Portugal) 062 831 566.

Singapore Singapore Sling. Contact Eric Chai ML, Block 4 #14-413, Pandan Valley, Singapore 2159, ☎ 65 4680630.

Sweden 32-bit ware. Contact 32-bit ware, Ekorrstigen 10, 147 63 Tumba, Sweden.

USA Japan Amiga Group.Contact: Rick Gardaya, PSC 78 Box 3876, APO AP 96326 USA.

Note: this list is provided as a free service for amateur, non-profit-making user groups. *Amiga Shopper* does not endorse or recommend any particular group and cannot be held responsible for any losses or problems.

WE NEED YOU – SEND IN YOUR DETAILS!

***Amiga Shopper* wants a truly comprehensive list of all the Amiga user groups worldwide. If your user group isn't listed on this page, please fill in the form below – we need you! Send to *Amiga Shopper* User Groups List, 30 Monmouth Street, Bath BA1 2BW.**

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AS39

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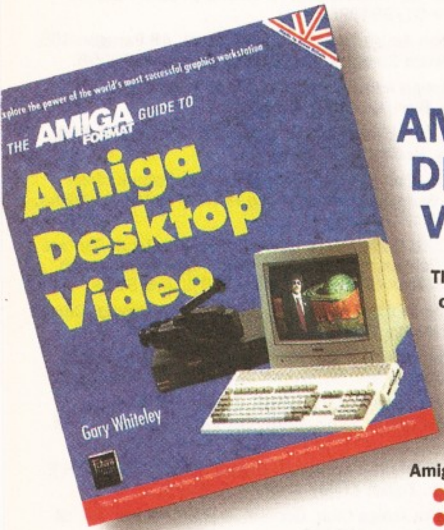
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AMIGA DESKTOP VIDEO

The Amiga is the world's premier low-cost graphics workstation. But its basic power, built-in expandability and ever-widening range of quality software and add-ons mean it's capable of highly professional results. All it takes is the know-how...

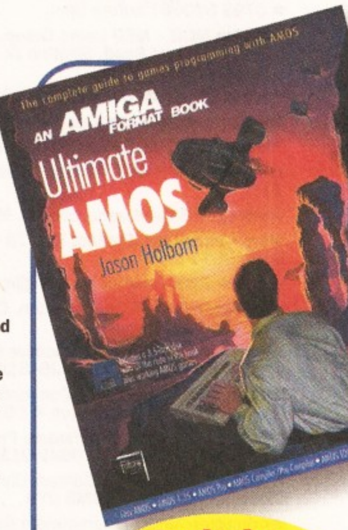
Amiga Desktop Video shows you how to:

- **Title your own videos**
- **Record animations**
- **Mix computer graphics and video**
- **Manipulate images**

...and much, much more

The author, Gary Whiteley, is a professional videographer and Amiga Shopper magazine's 'tame' desktop video expert. In this book he explains desktop video from the ground up – the theory, the techniques and the tricks of the trade.

Includes a comprehensive glossary to help you unravel desktop video jargon and terminology



ULTIMATE AMOS

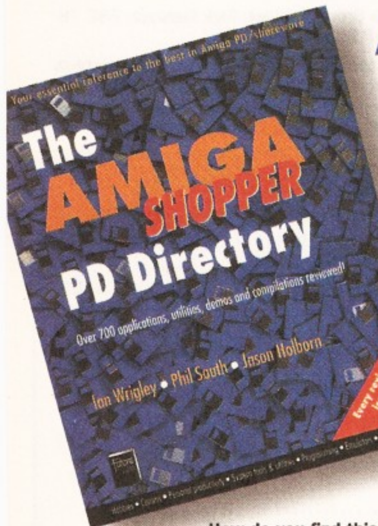
Explore the full potential of AMOS with easy-to-understand descriptions, diagrams and dozens of example AMOS routines. All you need to produce your own Amiga games is a smattering of BASIC knowledge, AMOS - and this book!

- **Learn essential programming principles**
- **Master screens and scrolling**
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- **Incorporate sound and music in your games**
- **Discover dozens of handy AMOS routines for incorporating into your own programs**

Includes one packed floppy disk

400 pages packed with all the information you need to get the best out of the Amiga's ultimate games creation package!

Includes a disk containing all the routines and programs printed in the book, plus four skeleton stand-alone games.



AMIGA SHOPPER PD DIRECTORY

Commercial software is expensive. Which is why more and more users are turning to the public domain/shareware market for their software. You can build a huge Amiga software library for the price of a couple of commercial packages!

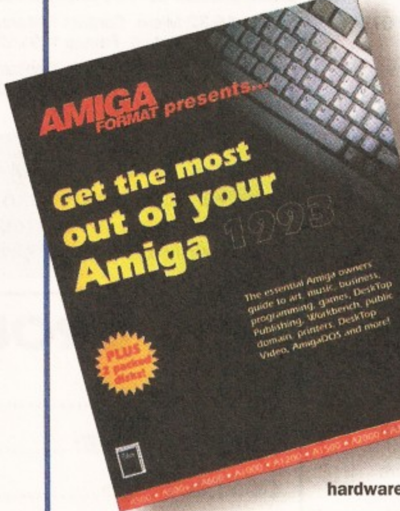
But first you need to know what software is available. And then you need to know what it does. And then you need to know whether it's any good.

How do you find this out? You find out here!

The Amiga Shopper PD Directory has been assembled from the first 30 issues of Amiga Shopper magazine. All the PD/shareware reviews since issue one have been collated, compiled and indexed in a single 500-page volume.

Programs are divided into categories, reviewed and rated. We name the original suppliers of the programs and we've also included a directory of current suppliers at the back of the book.

Get this book and save yourself £££s!



GET THE MOST OUT OF YOUR AMIGA 1993

If you've got an Amiga, you've got the world's most powerful, versatile and cost-effective computer. If it can be done a computer, it can be done on the Amiga. But getting started in comms, desktop publishing, music or any other area of computing is difficult if you don't have a friendly guide.

This book is your guide! It covers every Amiga application, from desktop video to programming, from games to music, explaining the jargon, the techniques and the best software and hardware to buy. And...

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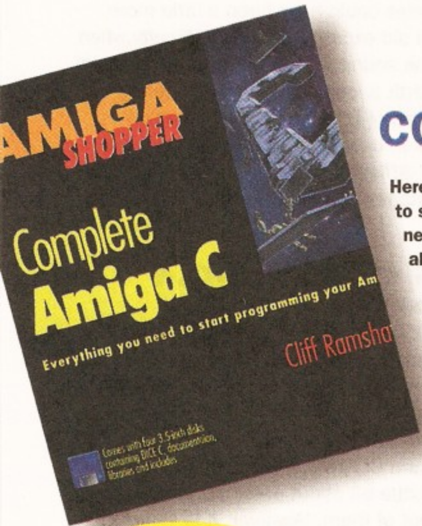
- **Discover the Amiga's history**
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You can save £10 on the price of this book if you buy it at the same time as Ultimate AMOS – see the form on the right for details.

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Future books are written by the very same people who write your favourite Amiga magazines. So you know you can count on the very best, from our money saving PD Catalogue or our guide to C Programming. The finest Amiga books you can buy.



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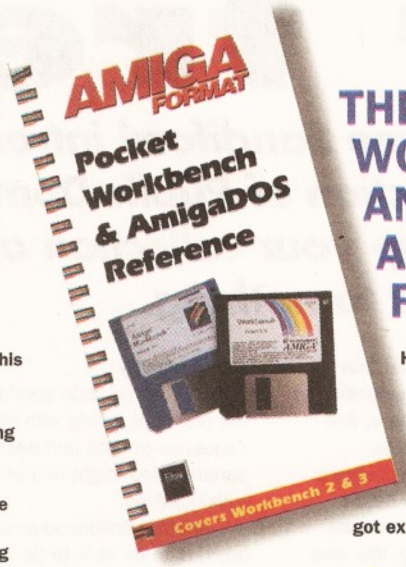
COMPLETE AMIGA C

Here, in one single package, is everything you need to start programming in C. All the information you need, all the explanations, all the jargon-busting, all the documentation AND all the software!

Getting started in C programming has never been easier than this!

- **Learn the basics of C programming with this 300-page book by Cliff Ramshaw, editor of Amiga Shopper magazine**
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- **Exploit your Amiga's special features using the version 1.3 and version 2 Commodore 'includes'and 'libraries' also provided (these are compatible with version 3 machines but will not provide version 3 features)**

Everything you need to get started in C programming on the Amiga is right here at a fraction of the price of a commercial package



THE POCKET WORKBENCH AND AMIGADOS REFERENCE

How do you copy files? How do you format floppy disks? How do you move things from one folder to another?

If you've just got your Amiga, Workbench and AmigaDOS can be confusing – unless you've got expert help on hand:

- **Understand Workbench menu options**
- **Customise Workbench for your needs**
- **Make the most of the supplied Tools, Utilities and commodities**

PLUS For more advanced users there's a full AmigaDOS 2 & 3 command reference, listing all the commands in alphabetical order and quoting function, syntax and examples. Learn how to really drive your Amiga!

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SOFTWARE for free

This month Graeme Sandiford introduces yet another fine selection of Public Domain software. Build up your collection of serious software for next to nothing.

Hello once again all you Amiga bargain hunters. We have another fine selection of free, or nearly-free Amiga-software. Are you looking for serious utilities, a guide to Hollywood's best films, or a conversion program that can handle anything from a JPG to Super Nintendo Mode7 graphics, look no further – we even have a bit of ancient Greek poetry. We also have an interview with Marcus Wilson, one of the people behind 17-Bit Software – the biggest PD supplier in the UK and probably Europe.

SEA SENSE

Essex Computer Systems £4 (licenseware)

While it may be true that "in Space no-one can hear you scream," your chances of being heard are not improved very much if you run into difficulty while at sea. In fact, the best way to improve your chances of survival is not to scream "help" and run around wildly with your hands in the air. Rather, you should concentrate your efforts on learning what to do in such a situation before going to sea.

Sea Sense might just save your life. No, you're not born with it. *Sea Sense* is the Amiga equivalent of those thin books with badly-drawn illustrations, found in most school libraries, that attempt to prepare you for the dangers of life on the high-seas. It takes the form of an interactive tutorial, complete with sounds and graphics.

It covers one of the things I wanted to learn as a kid, flag signals. It also covers morse code, marine law, navigation, weather, equipment and sound signals.

The morse code section provides a listing of the alphabet, along with the corresponding sequence of dots and dashes. This is much the same as you might find on a pair of children's walkie-talkies.

Another childhood-ambition, shared by most boys, is to be able to tie fancy sailing knots. The section on knots contains diagrams and instructions that explain how to make them. The diagrams comprise stages of how to tie the knot with a caption for each stage.

Marine law is more confusing than you might at first expect. It's not just a matter of keeping under 6 knots in built-up areas. There are all sorts of registrations, licenses, certificates of competence, insurance and customs rules you need to acquire and comply with. For example, on an inland waterway it's illegal to travel at a speed that will cause excessive wash that could damage the bank. Another requirement you need to comply with is the minimum lighting configuration – you need to have a variety of lights fixed to your craft in several specific positions.

There are also some useful guidelines concerning the basic equipment you should take with you when going to sea. It includes details of the type of fire extinguisher you should bring. It's amazing how many different anchors there are: there's the fisherman – the one you'll see most often in pictures (for use in gravel or shingle); the CQR (for mud or sand); the Danforth (all purpose); and the Smith (also all purpose).

There is an extensive area devoted to navigating. It explains the differences between the types of buoys you might encounter and how to interpret what their positions and colours mean. It also details the navigating and charting equipment you will need and how to use them effectively.

The package is not intended to be a complete guide to all things nautical but does include some useful and interesting information. My only gripe is that the diagrams could have been a little more detailed, and I did experience some difficulty when trying to get the sound signals to work. The tutorial is definitely worth a look if you are considering taking to the sea or travelling inland. It's also useful if you plan on visiting a tough sailor's pub – explaining the difficulties you are having with your Gimballed compass is always a good ice-breaker.

Program Rating 74%

VARK'S CLI DISK NO.4

Roberta Smith DTP

I reviewed disk 3 of *Vark's CLI-only* collection of programs in issue 36, and was suitably impressed by the quality of the programs on offer. Disk IV makes an attempt to maintain this high standard. One thing you might like to bare in mind is that, as the programs are CLI-only, you'll need to understand a little bit about enter CLI options to get the best out of them. However, it is very simple and should only take a little experimentation or research on your part. You can even create your own icons for some of the programs.

This disk has a leaning towards AGA-fixes; it's good to see programs that appear to fill in the gaps created by incompatibility problems. *RunIt Version 1.2* is one such program. It's charityware, so if you find it useful the author would ask you to make a contribution to a charity. The program has a number of options for improving compatibility between games and utility bootblocks, and faster and newer Amigas. You can use the Screenblank option to stop that irritating screen corruption you sometimes get with older games and demos. *FakeFast* is another version of *FakeMem*. This option will fool programs into thinking that you have 512K of chip RAM and 512K of fast RAM. This is for use with machines with 1Mb of chip RAM, like 500+s and 600s. You can also choose between PAL and NTSC display modes. *OldKick* will attempt to emulate 1.x KickStart values. There is also an option that enables you to choose which chipset you want your machine to emulate – if you have an AGA-machine you can emulate both the ECS and OLD chipsets. There are also other options available, but the program doesn't really offer much

BEGINNERS START HERE

One of the most confusing aspects of looking for good PD is the enormous variety. There are all sorts of software categories: shareware, freeware, charityware, and even giftware. So here's a quick list of the categories of programs you are likely to encounter in the PD World.

● PD stands for Public Domain. It's the most widely available kind of software discussed in this section of the magazine. It's basically free; the only condition is that the program and associated files are unaltered and are distributed together. You should only expect to pay a nominal fee for disk duplication, postage and the library owner's time and effort.

● The idea behind shareware is simple – it gives users the chance to try before they buy. Often the shareware version of a program is limited, with a few functions disabled. When the user is happy the program is suited to his needs, he can register and then receive the full version.

● Licenseware is of higher quality than PD but is on the other hand cheaper than registered shareware. There is no registration fee to be paid, but the author receives a royalty payment.

● Freeware is free. In essence it is pretty much the same as PD but you can do with it as you will. Again, only a nominal fee can be charged.

● You may well be wondering: "If I find a useful program in the Public Domain can I make a copy for my best mate?" The answer, on the whole, is yes. But you definitely can't distribute registered shareware or licenseware.

● Giftware is a nice idea; sometimes an author may ask you to send a gift if you find his or her program useful. This is usually something along the lines of a postcard of your home town.

● Charityware is another extremely well-intentioned form of software. The author of a piece of charityware will ask you to make a donation to a charitable organisation.

PUBLIC PERSONALITY

MARCUS WILSON OF 17-BIT SOFTWARE

17-Bit Software are probably one of the largest PD houses in Europe. They have also branched out into producing commercial games. They stock an impressive range of both floppy-based and CD-ROM PD. In fact the collection can be obtained in the form of CD-ROMs. We had a word with Marcus Wilson to get his view on the Amiga PD scene.

I understand you have been established since 1988. Back then, what prompted you to start a PD library?

Back then, it was like a venue market. There was a growing number of Amiga-users, but not much in the way of software that really showed off the machine. Then the demos started coming out. A lot of people were actually bundling them with the machines. It was the only stuff that showed off what the Amiga could do, and it really all stemmed from there.

Do think being a larger than average PD has improved your contact with the average user, or has it perhaps distanced you a little?

As far as the people who actually create the software are concerned, we are in regular contact. The better known we become, the more stuff we can distribute and the further afield we can distribute it. At the end of the day that's what most customers want.

How many members do you have at present?

On the Amiga side we have approximately 52,000.

What do you think of the future of the PD market; is it moving more towards serious software or Demos?

There is a big debate going on about this; PD floppy sales have been falling; all the libraries are saying the same thing. It's going more towards CDs, and more and more it's turning to shareware. Instead of the old PD releases, we are getting more shareware utilities and games. Demos have been very thin on the ground for quite a while now.

You can contact 17-bit on ☎ 0924 366982, or write to them at 1st Floor Offices, 2/8 Market Street, Wakefield, West Yorkshire WF1 1DH.

more than options available on bootup if you have a 1200 or 4000.

BigAnim was also reviewed in issue 36; in fact, it was on the coverdisk as well. It really is a fantastic utility – essentially what it does is play back animations from your hard disk. This can facilitate the playing back of animations that are larger than your available memory. There are several options that can be controlled from the CLI that can be altered to improve the playback of your files, such as the buffersize etc.

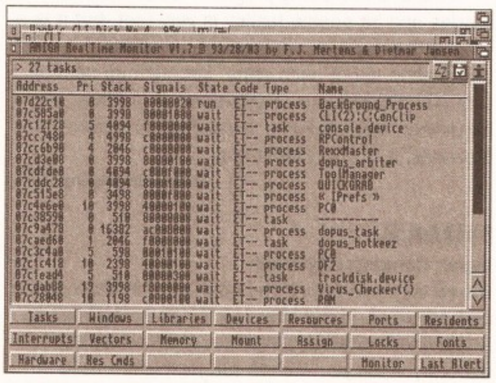
One aspect of the Amiga's flexible interface that is sometimes overlooked is the Keymaps. If you've not seen them before, have a quick look in your Devs/Keymaps directory on your Workbench disk. Keymaps sit between the keyboard and the Amiga to tell your computer how to interpret each keystroke you make. *EditKeys* is a program that has been designed to edit these files. You can redefine any key you choose; so for example, you could make the computer register each press of the [r] key as the letter b. The program can also be used to define Deadkeys, these are the keys that, when pressed, produce no output of their own. Instead they alter the output of keys that are pressed immediately afterward. Modifiable Keys are the keys that can be altered by pressing deadkeys. By far the most useful key type that can be edited are String keys. You can assign up to 32 characters to each keystroke. This can be used in a similar way to text macros and can save a great deal of typing. This is especially useful for programmers. The program itself is very easy to use and you will soon be producing your very own custom Keymaps in no time at all.

Bootfile and *FD-BICS* are two programs that perform basically the same function; they can both be used to create boot intros. A boot intro is a small program that is placed in the bootblock of a disk – as a result, when someone boots from this disk, the program is automatically run. Most of these are usually messages, but they also perform another useful function. The bootblock of a disk is also the same place that bootblock-viruses hide themselves. As both the program and virus cannot share the bootblock, you will know if a virus is present if the message fails to appear (the boot intro will have been overwritten by the virus). Both programs are simple enough to use, and the boot intros can be fun as well.

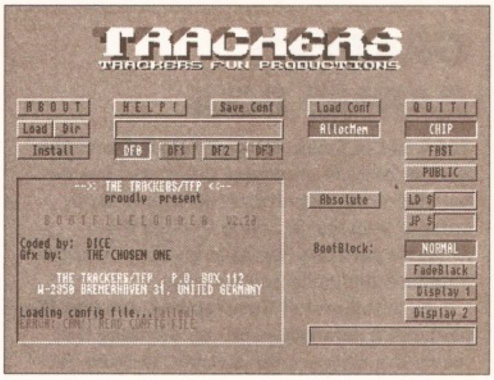
CheckDrive will also help in the fight against bootblock viruses. It simply checks the bootblock of specified disk for a bootblock virus. That's it, easy eh?

DiskSalve 2 has also been included in this collection, it was reviewed in issue 36 as well. It's a practically indispensable utility that can be used to repair damaged disks and salvage lost files.

Just a couple of years ago life was pretty simple as far as music tracker programs were concerned, but now you cannot turn around without bumping into a different tracker module format. There is an oddly-named conversion program in this collection called *Perverter 1.12*. It can handle several formats including: *NoiseTracker, ProRunner 1+2, Promizer 1+2, Protracker 2.1, Silents-Tracker, Kris-Tracker* and, amongst others, the *LaxityTracker*. Yes that's right – the *LaxityTracker*! The interface is simple to use; you just select the module you wish to convert, load it and then select its format type from the list and, hey presto, it's converted. However, be warned; if you select the wrong filetype the program is likely to crash horribly.



Discover the secret-life of your Amiga. The Amiga RealTime Monitor can be used to keep an eye on what goes on inside your computer.



The Boot File Loader is a program with two uses. It can be used to display messages at bootup. The other use is to stop the spread of viruses.

If you own, or have access to, a Photo CD capable CD-ROM drive, *PCDtoIFF* will be of interest to you. It can convert Photo CD images to IFF format so you can use them in an Amiga paint package or image processing software. You can specify both the image's converted resolution and colour depth. It's possible to convert images up to a massive size of 2048x3072 pixels. But, be warned, you will need a heck of a lot of memory (approximately 24Mb).

The anim5 animation format has been around for some time now and is getting a little long in the tooth. *MakeAnim7* will transform your drab, slow-moving animations into new, whiter-than-white anim7 files. The main advantage of using anim7 files is that they are faster and smoother than their anim5 counterparts. This increase in playback speed does not come without cost; the drawback is a smaller compression ratio and hence larger files. If you have seen an anim7 file running, I am sure you'll agree that the increase in file size is worth it. The one problem you may encounter is that some programs such as *DPaint* etc cannot display these files; there are, however, a few PD programs which can, such as *ViewTek* for example.

You may not have thought so, but your Amiga leads a very secretive life. There are all sorts of things going on behind the scenes. *ARTM's* (Amiga RealTime Monitor) main joy in life is exposing these secret things. *ARTM* can be used to examine all sorts of things, such as your machine's memory, open windows, devices, assignments and vectors. It gives access to the windows (or screens) that are being used by active programs, and gives you the chance to close them or receive more information about them. Included in this information are things like the current size and position, menu items, the fonts it uses, maximum and minimum heights and widths, as well as the mouse pointer that is being used.

You can also obtain a list of assigned directories, resident commands and libraries. As well as being informed of what is being used, you can edit or remove certain ones, such as removing libraries or devices that are being used. This really is a useful program to have in your software collection, as you can get detailed information on how your computer's resources are being utilised. To get the most out of the program, you do need a substantial amount of knowledge about how the Amiga works, but it can also be fun just poking around your machine's insides.

All in all, this a pretty good collection of programs, however, it doesn't quite meet the high standard set by disk number three. It still has some very useful programs and should be of interest to anybody who would like to make the

GRAEME'S RATING BOX

The world of Amiga PD contains an incredible amount of good programs, but it also has its fair share of poorly-written software. So, in order to help you in sifting through the available software, we have given each of the programs and collections ratings.

As in the rest of the magazine, we give PD products a percentage rating. Anything that receives a rating of 80 per cent, or more, is worth taking a look at. If it gets more than 85 per cent, then it should be added to your collection at the earliest opportunity. Disk compilations are given a Product Rating, as they are valued collectively. Individual programs are given a Program Rating.

most of their Amiga's abilities.

Product Rating 82%

DIGIPIX

John Leaver (£3.50)

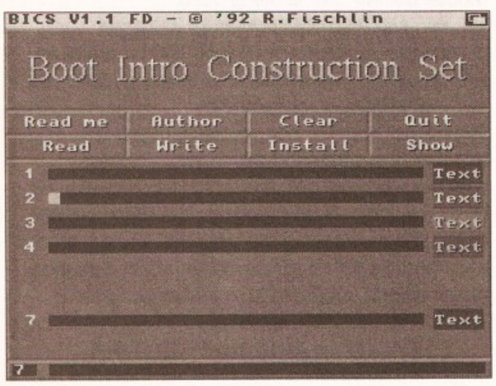
Have you watched, or seen TV-footage of, a couple of otters frolicking in a stream or pond? It warms your heart to see those cute little animals enjoying themselves. In a similar vane of furriness and all-around cuteness, *Digipix* is a collection of digitised pictures of animals and birds. There is also the possibility, if the animal range proves popular, that plants and famous buildings will be released.

The sample disk I was reviewing contained a mixed selection of birds and animals. Among the featured creatures are: a chimpanzee, gull, sea eagle, lion, a lilac-breasted roller, and others.

The images themselves have been digitised in colour, and can be included in any presentations etc without charge. However, they are not PD and, as a result, they can't be distributed. The quality of the images, as a whole, are quite good, but some appear a little blurred and heavily pixelated. It is also a shame that the images are only of standard HAM-mode. It would have been better if they were in both HAM-8 and normal HAM, as this would make them useful for standard and AGA-Amiga users. The example disk contained 10 images and you can expect between 7 and 12 images on the disks. There are currently 20 disks in the collection, with more on the way.

If would like to sample these images you can send a cheque, for £3.50 per disk, to; John Leaver, 99 Ibsley Gardens, London, SW15 4LX.

Program Rating 76%



This is the colourful interface to the Boot Intro Construction Set. You can use it to create more of those interesting boot intro messages.

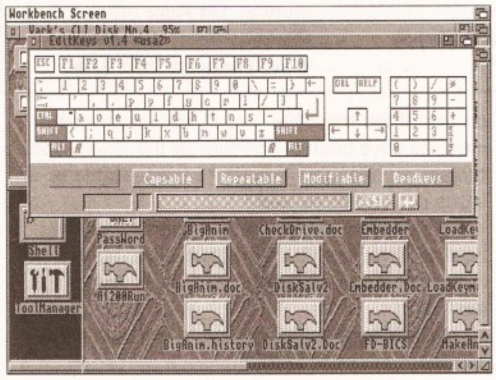
MOVIEGUIDE

On-line PD

MovieGuide, as you might suspect already, is a database with information about films. In fact the program also includes information about TV-series. The program is pretty simple to use; it is similar to most types of databases where you have a search facility. To find the film you are searching for, you can either input the title of the film, name of the director, or one of the names of the cast.

To speed up your search, you can restrict the search areas to either films or TV-series. The search can be restricted to countries – the ones you can select are: USA/UK, Denmark, Europe, or a combination of all 3. To further reduce the search time, you can also select the film's genre. The categories you can select are: documentary, musical, western, family, animated, comedy, horror, sci-fi/fantasy, action and drama. Once again, you can also choose to search through all of the categories at once.

In the present version, the information is a little sketchy to say the least. The only facts that are included are the title, director, and the major



EditKeys can be used to edit Keymaps. These files are what the Amiga uses to find out what character to generate for which keystroke.

members of the cast. Once you have found the information you have been searching for, you can sort the films by year, name or genre. You are also given the opportunity to print out the information – you can choose whether this will be the list of films you requested, or the details of a film you have selected.

In operation the database is very intuitive to use, but I did encounter difficulties when searching for one or two films. For example, the program was unable to find a listing for Star Trek – oddly though, if you perform a search for William Shatner or Leonard Nimoy, the database will list the Star Trek films and TV-series.

This is a promising program. It has 14,000 entries and its search facility is very fast, but it is a shame that there is not more descriptive information about each entry, although an update with plot descriptions is promised. If the bugs are ironed-out, this would be a excellent program – as it stands, it is only interesting.

Program Rating 67%

HDM2

Essex Computer Systems

It's all very well having the additional storage space and speed of a hard disk, but it can sometimes be a real chore when digging through directory upon directory when you wish to run a program. One solution is to purchase a commercial program such as *Directory Opus*, but these can be very expensive. *HDM* (Hard Drive Menu) *2* attempts to provide quick and easy access to your more frequently used applications.

The first incarnation of *HDM* was quite promising, but was extremely sluggish. This was due, at least in part, to the fact that it was created in *CanDo*. The creators of *HDM* now have the technology to rebuild it and make it much stronger and faster. The program does indeed seem to have some form of bionic implant as it races along. It has actually been rewritten in C to increase its speed.

For those of you who are unfamiliar with the way *HDM* works, it provides a menu (under the Tools heading on your Workbench screen) with some of the applications you've placed there. Alternatively, you can choose to have your applications displayed as buttons in a window. To execute an application, all you have to do is click on its corresponding button and it will be launched automatically. Adding programs is easy as well. All you have to do is drag the application you wish to add over the *HDM* window and it will be added to the next available button or menu space. If you run out of space in the current window or menu, you can carousel the windows. You can the move between different sets of buttons by either clicking on next or previous.

HDM 2 is certainly an improvement over its first version, particularly in the speed department. In reality though, *HDM* doesn't do anything that couldn't be done with *ToolsDeamon* or, my personal favourite, *ToolManager*. I also encountered a few problems when the program was installed on my A4000. Almost every-other time I installed a program to a button, the computer would crash. The A4000 would also crash after re-booting when it reached *HDM* in the startup. It is an improvement, but if you already have *ToolManager*, or similar, it's probably not worth ordering this program.

Program Rating 61%

TRONI-CAD

Barkin' Mad (PD Disk 1315)

Troni-CAD is yet another electronic circuit designer, this one has been written in AMOS. One of the program's most impressive features is its high resolution (up to a maximum of 1000x900). It achieves its high resolution display by automatically scrolling the screen in response to your mouse movements. This can be a little confusing at first, especially when trying to pull down menus, but you soon get accustomed to it.

The program has most of the drawing tools you would expect from a circuit designer or a drawing package. It can draw straight lines, circles, a variety of boxes, arrows and selection of electronic symbols. The symbols that are built into *Troni-CAD* are far from extensive, and even appears more than a little pathetic when compared with the likes of *ProCAD* (reviewed in issue 37 – turn to page 62). However, it does allow for the importation of saved blocks from a library that is extended by saving a schematic as a block. The advantage of this system is that you can save a large area of a circuit; for example, you could save a diagram of sampler, and then reload it into another schematic, say a radio – this can make it easier to integrate different types of circuits.

Most of *Troni-CAD's* items are recorded as individual objects – this means they can be edited later on. This can save time if you want to create a similar object – you can just duplicate the item and then make the necessary adjustments to it rather than starting from scratch, or saving the item as a

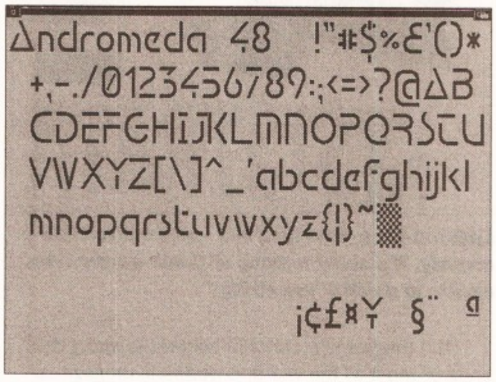
BLITS & BOBS ***You may have already taken a look at our interview with 17-Bit Software – one of Europe's largest Amiga PD suppliers. They have a huge collection of disks, which is around the 5,000 mark. If you take this number of disks and lay them end-to-end, they will reach a length of 17,500 inches. This is almost one and a half times the height of the Eiffel Tower (11,808 inches). Wow!***

block and then reloading it.

When you are happy with your design, you can print it out. *Troni-CAD* has three printing modes to choose from; you can print in normal, artwork or enlarged mode. Other preferences you can set include: the definition of the screen (the resolution); the number of pixels the pointer will move across the screen; the background colour; and whether you want a border or not.

The program serves its purpose; to help you create schematics of circuit design. It could be improved – it could do with a larger library of symbols in particular, but it is easy to use and is capable of producing complex images.

Program Rating 76%



If you are not sure which fonts you have installed on your Amiga, you can easily run PrFont and it will display all of them for you.

ILINOIS PROFESSIONAL 3

Essex Computer Systems (licenseware)

Ilinios Professional was once a commercial program that has now been released as licenseware. It's a label printing program, and comes with several example files for creating labels for floppy disks, video and audio cassettes and even recipe cards. It has a useful hot-key facility that can be used to control most functions of the program and your printer. It has the usual database and mail-merge functions, as well as the ability to create customised reports. One of its more unusual abilities is speech – it can read out letters, words, field names, or even a whole record.

The complete system comes on two disks: the program disk, and data disk. The data disk also contains the documentation, the converter program, merger program and configuration files. *Ilinois'* documentation is quite extensive, but would definitely benefit from being in the form of an *AmigaGuide* document. The documentation is split between several files which can definitely make finding the area of text you are looking for quite time-consuming.

Ilinois' configuration program gives you access to several areas of the program's operations. Under the reporting menu you can specify page width, lines per page, margins, double spacing, form feeds, header options, print style and whether there is a pause between each page. The mail-merge options are similar to the reporting options, but also includes a series of commands that can be included in your mail-merge documents. These can include things such as addresses, telephone numbers and dates. Among the speech options are whether or not you wish the program to speak each word, each character, each space, each deletion, fieldname, selected records, or even the status panel. The program has its own speech driver which can be fine-tuned until you are happy with its sound. You can alter its frequency, give it a "natural" or robotic inflection, have a male or female reader, change the volume and which channels will be used to produce the sounds. You can also edit the printer command codes; once you're happy with them, you can save your driver. This can be useful if you have an usual printer which does not come with an Amiga printer driver. As long as you have a manual that contains its control codes, you can make your own driver. Among *Ilinois'* more general settings are the date and time display, memory display and format, backup of files, and the screenmode.

The program is easy to use and has plenty of options, but it does suffer from a rather dated-looking interface. Occasionally I came across one or two irritating bugs. These cropped up mostly when I cancelled an operation or failed to write-enable a disk. The program operates in a similar manner to a database – you can create and edit fields and set their types, such as numerical, date, time, or logical. Once you have created your records you can print out a report, or the labels themselves if you so desire.

The program has plenty of options and is extremely configurable. It is easy to use, despite its quirks, and performs quite well. However, as a program it doesn't really stand head and shoulders over the competition, much more like forehead and eyebrows to be honest.

Program Rating 78%

MULTIPRINT III

Roberta Smith DTP (Assassins Collection), Disk BU133

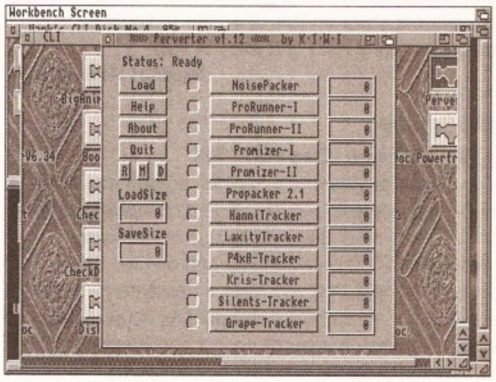
The Assassins have continued to expand their range of serious PD software with the release of printer utility collection *Multiprint III*. The disk has several printer drivers for some of the most popular printers, page saving utilities, envelope printing programs and even a database. In short, this compilation is intended to make printing documents, envelopes etc easier. The programs on this disk include *EPrint, Quickfile, Prfont, APrf, Columns, MiserPrint* and printer drivers and utilities for the CannonBJ10 and HP-DeskJet.

APrf v5.00 text-file printing utility can do a variety of extremely useful things. It can be used to add headers and footers to a page, set up margins and makes use of your Workbench printer preferences. It can read files that have been crunched by *PowerPacker Pro* and has an ARexx message port.

Columns is a paper-saving utility. It can be used to print text documents more efficiently by printing the text in columns. Text is squashed on to the page, up to 180 lines per page and 160 characters per line on a A4-page; this is more than five times the usual. Although this kind of compression ratio is possible, it is not easy to read if you are visually impaired. The program has a simplistic interface with buttons for controlling most of the programs functions. To convert a text file, you merely have to select the document, select the number of characters and lines you want, fill in the necessary information about your page, press convert and then choose an output, usually your printer. There are also options for controlling the output's quality.

PrFont is a simple shareware program that will display or print out the fonts you have currently got installed on your system. You just need to double click on the program's icon and it will automatically search out and display your fonts. If you are using the Shell, you will need to specify whether or not you want a printout and which screen you wish to display. As the program searches for your Fonts: directory, you can get the program to display other fonts by assigning that directory as Fonts:.

MiserPrint performs the same task as *Columns* but doesn't compress the text quite as much. It also doesn't have as many printing and layout options. However the one function it does have that *Columns* doesn't is a preview,



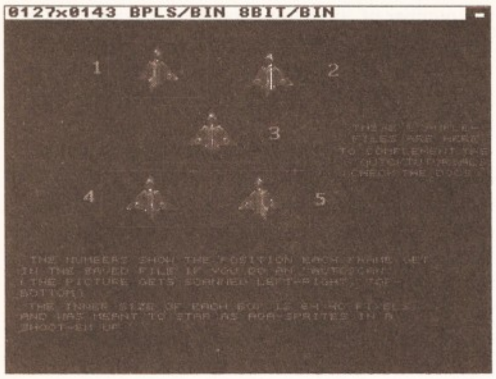
I know it's a bit of dodgy name, but Perverter is a useful program to have. It can be used to convert between several tracker module formats.

giving you an idea of how the printed document will appear.

The Canon BJ10 folder contains five useful programs: *Fontshop* – a font-downloader; *CanonPref* – the driver preferences program; *Report* – reports on your current driver settings; *Install* – the installation script; and the Cannon BJ10 printer driver itself. The driver and installation script can both be used on any model Amiga, but the font downloader and the preferences program are Workbench 2+ only.

The HP drawer contains drivers for the HP-Deskjet 500B and 500C.

QuickFile 1.3 is a standard flat-file database program. The program can be used to create and print address labels, disk labels or any other kind of list you decide to create. It is a shareware program, and as such the author would ask that you send 20 Australian dollars if you find the



Here's PicCon in action. It's an extremely useful picture conversion program. It can also be used to create sprites.

program useful.

The collection is a worthy addition to the Assassins excellent range of disks. Although there are no real stars on this disk, the majority of programs are useful and easy to use.

Product Rating 79%

PICCON

17-Bit Software (Fred Fish 938)

This handy program is aimed at programmers, but non-programmers may also find it of interest. It's a picture converter that makes use of datatypes (Workbench 3.0 only), so you can convert any picture formats that you have a datatype for, such as JPEGs. It is also AGA-compatible, so you can import convert images of near 24-bit quality.

As the program is intended for use by programmers, it has some rather nifty saving options. These include the ability to save images such as sprites, Workbench icons and a special chunkymode. You can also save the data as binary, C, E, Pascal and assembly source code. You can save several blocks of images in one go with the gridsave option – this can be useful for creating map tiles or sprite animations.

If you are involved in games development for platforms such as the Megadrive or SNES, there is a bonus to be found in *PicCon's* extensive console graphics format support. The program can even export data in the SNES' special Mode7 format (used for zooming-in and exploding effects).

PicCon's palette handling abilities are impressive as well. You can load and save palettes in a wide variety of formats, including the standard Amiga 4-bit, 8-bit, 32-bit, RGB 4-bit, RGB 32-bit, SNES 5-bit and Megadrive 3-bit modes. You can also save the palette as a copperlist.

Another useful feature is *PicCon's* Fontset loader. This loader can open the Amiga bitmap font as an image. It is also possible to the opposite; you can draw your own fonts in a paint package, such as *DPaint*, load the image in and then save the information as a fontset, and there you have it – your very own custom font. The only limitations are that the fonts that will be produced can only be mono-spaced and a single colour.

Several of *PicCon's* functions including grab frame, autoscan and autocrop, making use of a grab pen. This is a colour in the palette that can be used to draw a box around certain areas of the screen. When you initiate a function that relies on this grab pen colour, it selects, copies, etc. the bound areas as a separate part of the image. This makes it easy to create animations on a single screen without worrying too much about having to select each frame individually.

The documentation is friendly and well organised. It is in the *AmigaGuide* format so you can easily move about the document. There are several text hotlinks in each node, so it is easy to locate explanations of unfamiliar terms and features. I must admit that this is an excellent program; it's packed full of useful features and is intuitive in its operation. It is shareware but £10 is more than a fair price. If you are into programming games, demos or even serious applications, you should get hold of a copy immediately.

Program Rating 92%



If you would like to get into the colourful world of PhotoCD, you'll need a conversion program like PCDtoIFF before you can view your pictures.

LYSISTRATA OF ARISTOPHANES

Immediate Arts (LicenseWare)

No, this is positively not the name of an Italian footballer, *Lysistrata* is a play that was written almost two and a half thousand years ago. It was written by a young Athenian playwright by the name of Aristophanes. The product on review is not a musty old scroll, rather a multimedia modern-day translation of the play.

The play is set in the period of time when Greece and Sparta are at war, and suggests a novel solution to the war. The plot is based mainly on a group of women who decide that they have had enough of the war, and go on a 'sex strike'. They feel, as they are women, that they are powerless to influence decisions made by the men in any other way.

Lysistrata is the main character of the play and she sets about convincing the other women to help implement her scheme. The style of language that is used is not stuffy or overly academic, instead it has been translated into a modern form of the English language.

The play is well-presented with scanned images and even a digitised animation of a brass statue. It is simplicity itself to navigate the play; you just click on a button and you move to different scenes of the play. There is also plenty of background information that fleshes out the play and its relevance to its time period and its source of inspiration. While I must admit I didn't personally enjoy the play that much, I think it is a good way of presenting such plays.

Program Rating 76%

BOUNTY SPECIAL EDITION 1 – 'WAR"

Cygnostic

GBH have been producing an impressive disk-based magazine, *Bounty*, for some time now. This special edition issue on war should be the first of many others.

This issue is a two-disk affair, mainly because the majority of the images are supplied in both AGA and non-AGA formats. The images are of a very high, if more than a little gruesome, standard. There are lots of atmospheric sunset pictures, mainly of men with big hard hats and carrying guns. There are also some rather attractive pictures with *VistaPro* created backdrops. One thing you should bear in mind is that, as a result of the issue's brutal theme, some images are disturbing.



Lysistrata is a two and a half thousand year old comedy. It's about a group of Greek women who decide to go on a 'sex-strike.'

The magazine's editorial content is along the lines of most of the war and weapons magazines available in newsagents. There is a section that covers the details of a number of weapons – this includes things such as the different types of bullets available. Tanks are also given a fair amount of coverage. There is extensive coverage of war planes that details the early development of some of the planes and their performance specs.

I must say I didn't enjoy this issue of *Bounty* as much as the previous ones. This is mainly due to my personal feelings with regard to war, however. Despite the low rating, if you find this sort of thing appealing, you may want to give it a look.

Product Rating 45%

GET IN CONTACT

The great thing about PD software is that everyone can get involved in it. If you have written a program that you feel other Amiga-users might find useful, or entertaining, why not send it to us for review?

If you come across a particularly useful PD or Shareware program, why not send in a copy of if for us to have a look at? When you do, be sure to include any documentation and please give us the supplier's name and address.

If you run a PD library, you will almost certainly appreciate a bit of free publicity. If you would like to appear in these pages, the quickest way of receiving a mention is to send in some of your latest PD for review.

UK PD HOUSES • UK PD HOUSES

A1200 Only PD. Contact B J Cowdall, 27 Pheasant Way, Cirencester, Glos. GL7 1BJ.

AGA Exchange, 18 Brownshill, Cromer, Norfolk NR27 0QA. Ads free. Membership fee £9.

Amicom PD, 22 Church View Close, Havercroft, Wakefield WF4 2PH.

AMOS PD, 1 Penmynydd Road, Penlan, Swansea SA5 7EH.

Amigaholics, Kevin Bryan, 49 Coutts House, Charlton Church Lane, Charlton, London SE7 7AS.

Amiganuts United, 1 Daffern Avenue, New Arley, Coventry CV7 8GR.

Amiga Productivity PD Series, 51 Ennors Road, Newquay, Cornwall TR7 1RB. Contact M J Docking.

Anglia PDL, 30 Victoria Street, Felixstowe, Suffolk, IP11 7EW. ☎ 0394 283494.

Anim1 PD, 2 Fatherwell Avenue, West Malling, Kent ME19 6NG.

Armchair PD, 180 Blackton Close, Newton Aycliffe, Co Durham DL5 7EY.

Artman, 40 Northwell Gate, Otley, West Yorkshire LS21 2DN. ☎ 0943 466476.

Asgard PD, 20 Langdale Drive, Flanshaw, Wakefield WF2 9EW. ☎ 0924 363059.

Batty's PD. Contact Ian or Lynn Battison, 7 Denmark Road, Northampton NN1 5QR. ☎ 0604 22456. Life membership £3.99.

Barkin' Mad, 18 Rhyber Avenue, Lanark, Lanarkshire ML11 7AL.

Beats Brothers, 6 Brownings Close, Pennington, Lymington, Hampshire SO41 8GX.

Belshaws PD, 55 Baldertongate, Newark, Notts. NG24 1EU. ☎ 0636 72503.

BG PD, 6 Peter Street, Whitehaven, Cumbria CA28 7QB.

Blitter, 213 Fordfield Road, Sunderland SR4 0HF.

Blitterchips, Cliffe House, Primrose Street, Keighley, BD21 4NN. ☎ 0535 667469.

BTK, 7 Callander Road, Catford, London SE6 2QA. ☎ 081 473 1650.

Bus Stop PD. Contact Lisa or Cheryl, 6 Smiths Avenue, Marsh, Huddersfield HD3 4AN. ☎ 0484 516941.

C and C PD. Contact Chris Wildman, 3a The Cedars, Tilehurst, Reading, Berks. RG3 6JW. ☎ 0734 411131.

Chris's PD, 22 Merryfields Avenue, Hockley, Essex SS5 5AL.

Colwyn PD, Andy Roberts, 17 Gladys Grove, Colwyn Bay, Clwyd LL29 7YB. ☎ 0492 533442.

Compo Software, 36 Priory Rd, Fareham, Hants, PO15 5HT

Computer & Design Services, 24 Blackmoor Croft, Tile Cross, Birmingham B33 0PE. ☎ 021 779 6368

CP PD, (in association with NFA Productions) 3 Dunedin Crescent, Winshill, Burton on Trent, Staffs. DE15 0EJ. ☎ 0283 516736.

Crazy Joe's, 145 Effingham Street, Rotherham, South Yorks, S65 1BL. ☎ 0709 829286.

Cygnostic, New Enterprise Centre Little Heath Ind. Estate, Old Church Road, Coventry CV6 7NB.

Deja Vu, 7 Hollinbrook, Beech Hill, Wigan WN6 7SG. ☎ 0942 495261.

Deltrax PD, 36 Bodelwyddan Ave, Old Colwyn, Clwyd LL29 9NP ☎ 0492 515981

Diskovery PD, 108 The Avenue, Clayton, Bradford, West Yorkshire BD14 6SJ. ☎ 0274 880066.

Essex Computer Systems, 118 Middle Crockerford, Basildon, Essex, SS16 4JA. ☎ 0268 553963.

Eurodisk PD, PO Box 2, Radlett, Herts WD7 8QL.

Express PD, 47 Aberdale Road, West Knighton, Leicester LE2 6GD. ☎ 0533 887061.

Fantasia PD, 40 Bright Street, Gorse Hill, Swindon, Wilts SN2 6BU.

Five Star PD, 48 Nemesia Road, Amington, Camworth B77 4EL. ☎ 0827 68496.

GVB PD, 43 Badger Close, Maidenhead, Berks. SL6 2TE. ☎ 0831 649386.

Haven Computing, 15b Meeching Road,Newhaven East Sussex BN9 9RL. ☎ 0273 513491

Highland PD. Free list contains lots of education and business disks. Contact David Paulin, 1 Whinpark, Muirtown, Inverness IU3 6NQ. ☎ 0463 242431.

Holmes Brothers Compilations. Contact Craig for monthly compilation disk. 23 Rocester Avenue, Wednesfield, Wolverhampton, West Midlands WV11 3AU. ☎ 0902 733418.

Hornesoft PD. Contact Chris Horne, 23 Stanwell Close, Wincobank, Sheffield S9 1PZ. ☎ 0742 422000.

ICPUG (Independent Commodore Product Users Group), PO Box 1309, London, N3 2UT. ☎ 081 346 0050.

Immediate Arts, 26 Lyndhurst Gardens, Glasgow G20 6QY. ☎ 041 946 5798.

John Leaver, 99 Ibsley Gardens, London SW15 4LX.

Judge Dredd's PD, 1 Nottingham Road, South Croydon, Surrey CR2 6LN.

Kew=II Collection, PO Box 672, South Croydon, Surrey CR2 9YS. ☎ 081 657 1617.

KT's PD. 75 The Drive, Rochford, Essex SS4 1QQ. ☎ 0702 542536.

Langham PD. Contact Richard Payne, 89 Wolverhampton Road, Codsall, Wolverhampton WV8 1PL

Logic PD, 8/5 Glenalmond Court, Sighthill, Edinburgh EH11 4BE.

Magnetic Fields, PO Box 118, Preston, Lancashire PR2 2AW. ☎ 0772 881190

MegaSoft, 78 Bockingham Green, Basildon, Essex SS13 1PF. ☎ 0268 559164

NBS, 1 Chain Lane, Newport, Isle Of Wight, PO30 5QA. ☎ 0983 529594.

Network PD & Shareware Library, Kenmare, Co. Kerry, Eire. ☎ 010 353 64 41603

NJH Computers, 12 Meesons Mead, Rochford, Essex SS4 1RN. ☎ 0702 546796.

Numero Uno, 21 Burstall Hill, Bridlington, N Humberside YO16 5NP. ☎ 0262 671125.

On-line PD, 1 The Cloisters, Halsall Lane, Formby, Liverpool L37 3PX ☎ 0704 834 335, BBS 0704 834 583.

Orbital Software. Contact A Flowers, 37 The Orchard, Market Deeping, Peterborough, Cambs. PE8 8JR. ☎ 0778 342064.

Pathfinder PD, 41 Marion Street, Bingley, W Yorks. BD16 4NQ. ☎ 0274 565205.

Penguin Public Domain, PO Box 179, Reading, Berks RG3 3DD.

PD Soft, 1 Bryant Ave, Southend-on-Sea, Essex SS1 2YD. ☎ 0702 466933.

Phil's A1200 Only PD, Phillips Woods, 101 Grove Rd, Gosport, Hants PO12 4JJ.

Premier PD, 45 Fairfield Gardens, Eastwood, Leigh-on-Sea, Essex SS9 5SD. ☎ 0702 520520.

Riverdene PDL, 30a School Road, Tilehurst, Reading, Berkshire RG3 5AN. ☎ 0734 452416.

Roberta Smith DTP, 190 Falloden Way, Hampstead Garden Suburb, London NW11 6JE. ☎ 081 455 1626.

Scribble PD, 2 Hillside Cottages, Burstall, Suffolk IP8 3DY. ☎ 0473 652 588.

SeaSoft Computing, The Business Centre, 1st Floor, 80 Woodlands Avenue, Rustington, W. Sussex BN16 3EY. ☎ 0903 850378.

Sector 16, 160 Hollow Way, Cowley, Oxford. ☎ 0865 774472.

17-Bit Software, 1st Floor Offices, 2/8 Market Street, Wakefield, West Yorkshire WF1 1DH. ☎ 0924 366982.

Softville, 35 Market Parade, Havant, Hants PO9 1PY. ☎ 0705 498199.

Software Expressions, Unit 4, 44 Beauley Road, Southville, Bristol BS3 1PY. ☎ 0272 639593.

Startronics, 39 Lambton Rd, Chorlton, Manchester M21 0ZJ. ☎ 061 881 8994.

Tazmania PD, 4 Boultham Avenue, Lincoln LN5 7XZ. ☎ 0522 538706 (after 6 pm).

Telescan Computer Services, Handsworth Road, Blackpool FY5 1SB. ☎ 0253 22296.

Trevan Designs Ltd, PO Box 13, Aldershot, Hants. GU12 6YX. ☎ 0483 725905 (note: modem)

Vally PD, PO Box 15, Peterlee, Co Durham SR8 1NZ. ☎ 091 587 1195.

Virus Free PD, 1F Offices, Victoria Centre, 138-139 Victoria Rd, Swindon, Wiltshire SN1 3BU. ☎ 0793 432 176

Visage Computers PDL. 18 Station Road, Ilkeston, Derbyshire DE7 5LD. ☎ 0602 444501.

WMC (Worldwide Marketing Concepts), 5 Arthur Terrace, Penisarwaen, Gwynedd, LL55 3PN. ☎ 0286 871815.

Your Choice PD Library, 39 Lambton Road, Chorlton-cum-Hardy, Manchester M21 1ZJ. ☎ 061 881 8994.

● Attention! If you run a PD library not listed here, or want to amend any information, send us the full details.
● Whenever you write to the libraries for a catalogue, include an SAE for its return.
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External 8Mb RAM expansion for A500
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Reviewed: 5
Supplier: WTS Electronics
Price: £199

A1230
14MHz 68030 and 68882 accelerator for the A1200
Rating: 90%
Reviewed: 27
Supplier: Silica
Price: £299

A1500/B2000
Discontinued. Big-box version of A500/A500+
Rating:
Reviewed:
Supplier: Commodore
Price: £S/H500

A2630
25MHz 68030 and FPU accelerator for the A1500(+)
Rating: na
Reviewed: na
Supplier: Commodore
Price: £1200

A3000-16
Discontinued. 608030 16MHz very rare. ECS chip set + 2Mb
Rating: na
Reviewed: na
Supplier: Commodore
Price: £S/H900

A3001
50MHz 68030+FPU accelerator for the A1500(+)
Rating: 90%
Reviewed: 3,5
Supplier: Silica
Price: £1799

A4000-30
Stripped version of A4000
Rating: na
Reviewed: na
Supplier: Commodore
Price: £999

A4000-40
Flagship 25Mhz 68040/AGA Amiga
Rating: na
Reviewed: na
Supplier: Commodore
Price: £2000

A500
Early machine with 512K. Good S/H models rare.
Rating: na
Reviewed: na
Supplier: Commodore
Price: £120+ (used)

A500+
Early V2 machine with 1M RAM. Good value S/H.
Rating: na
Reviewed: na
Supplier: Commodore
Price: £140 (used)

A5000-16
16MHz 68020+FPU accelerator for the A500(+)
Rating: na%
Reviewed: 4
Supplier: ACL
Price: £189.99

A530
40MHz 68030+FPU accelerator for the A500(+)
Rating: 90%
Reviewed: 20
Supplier: Silica
Price: £800

A590
Hard disk/RAM expansion for A500+
Rating: 50%
Reviewed: 1,8,13
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A600
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Rating: 80%
Reviewed: na
Supplier: Commodore
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A8802SVHS
SVHS version of A8802 genlock with fade and dissolve
Rating: 50%
Reviewed: 10
Supplier: Marcam
Price: £499

AdRAM 2000
Internal RAM expansion for big box Amigas
Rating: 70%
Reviewed: 8
Supplier: Power Computing
Price: £179

AdSpeed
16MHz 68000 accelerator for the A500(+)
Rating: 70%
Reviewed: 3,5
Supplier: Silica
Price: £173

AEHD
One of the few high-density drives for the Amiga
Rating: 70%
Reviewed: 8
Supplier: Applied Engineering
Price: £140

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Hand-held 400DPI monochrome scanner
Rating: 90%
Reviewed: 14,22
Supplier: Golden Image
Price: £199

AMAS 2
8-bit stereo sound sampler with volume control
Rating: na%
Reviewed: na
Supplier: MicroDeal
Price: £100

Amitek 600
Internal RAM expansion for the A600
Rating: 70%
Reviewed: 24
Supplier: Silica
Price: £45

Aries 2000
Internal RAM expansion for big box Amigas
Rating: 70%
Reviewed: 24
Supplier: Power Computing
Price: £129

Audio Engineer
8-bit stereo sound sampler with adjustable volume
Rating: 90%
Reviewed: 5
Supplier: Silica
Price: £199

B5000-25
25MHz 68030+FPU accelerator for the A500
Rating: 70%
Reviewed: 3,5
Supplier: ACL
Price: £479

Canon BJ-10ex
Reliable and popular ink-jet. 360DPI, 83 CPS
Rating: 90%
Reviewed: 22
Supplier: Canon
Price: £299

Canon BJ-10sx
Alternative BJ-10 ink-jet. 360DPI, 110 CPS
Rating: 70%
Reviewed: 29
Supplier: Canon
Price: £227

Canon BJ-300
Fast desktop ink-jet. Three fonts, 360DPI, 300 CPS.
Rating: 70%
Reviewed: 22
Supplier: Canon
Price: £495

Canon LBP4 Plus
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Rating: 70%
Reviewed: 22
Supplier: Canon
Price: £1175

CAX354
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Rating: 70%
Reviewed: 0,2,8
Supplier: Cumana
Price: £75

CBM040
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Rating: 90%
Reviewed: 20
Supplier: Commodore
Price: £na

Cherry Mk4
High resolution 9' x 12' touch tablet
Rating: na
Reviewed: na
Supplier: Cherry
Price: £450

Citizen 240C
24-pin colour printer. 240 CPS and nine resident fonts
Rating: na
Reviewed: na
Supplier: Citizen
Price: £350

Citizen L24d
24-pin impact printer. 109 CPS
Rating: 70%
Reviewed: 4
Supplier: Citizen
Price: £292

Citizen M200
24-pin impact printer with 240 CPS performance
Rating: na%
Reviewed: na
Supplier: Citizen
Price: £250

Citizen Projet
Impressive ink-jet from Citizen. 360 DPI, 360 CPS
Rating: 70%
Reviewed: 22
Supplier: Citizen
Price: £496

Citizen Swift 24
Well-made 24-pin impact engine. 121 CPS. Five fonts.
Rating: 70%
Reviewed: 4
Supplier: Citizen
Price: £428

Citizen Swift 9
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Rating: 90%
Reviewed: 4
Supplier: Citizen
Price: £280

Citizen Swift 90C
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Rating: 70%
Reviewed: 29
Supplier: Citizen
Price: £169

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Reviewed: 25
Supplier: MicroDeal
Price: £149

ColourPic
Real-time colour video digitiser
Rating: 70%
Reviewed: 2
Supplier: JCL
Price: £399

ColourPic+
Real-time colour video digitiser with animation
Rating: 70%
Reviewed: 22
Supplier: JCL
Price: £699

CSA Mega Miget
33MHz 68030+FPU accelerator for the A500
Rating: 70%
Reviewed: 3,5
Supplier: Omega Projects
Price: £389

CSA Rocket Launcher
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Reviewed: 20
Supplier: Omega Projects
Price: £549

DataFlyer 2000
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Rating: 50%
Reviewed: 1
Supplier: Trilogic
Price: £350

DCTV
Pseudo 24-bit video enhancer for all machines. 368x580 pixels
Rating: 70%
Reviewed: 12
Supplier: Silica
Price: £499

Diconix 701
PC ink-jet printer. 300 DPI, 200CPS.
Rating: 50%
Reviewed: 22
Supplier: Kodak
Price: £399

DigiTiger II
Simple colour video capture system
Rating: 70%
Reviewed: 17
Supplier: SA&H
Price: £200

Digiview IV
Simple colour video capture system
Rating: 70%
Reviewed: na
Supplier: Silica
Price: £150

Emplant
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Rating: 70%
Reviewed: 28
Supplier: Blittersoft
Price: £254.95

Epson Epl4000
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Rating: 70%
Reviewed: 22
Supplier: Epson
Price: £799

Epson LQ400
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Reviewed: 4
Supplier: Epson
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Epson LX850
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Reviewed: 4
Supplier: Epson
Price: £269

Epson SQ870
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Reviewed: 22
Supplier: Epson
Price: £659

Epson Stylus 800
Budget ink-jet printer (it shows). 360DPI, 360 CPS.
Rating: 50%
Reviewed: 29
Supplier: Epson
Price: £295

FD Internal 2000
Internal floppy disk for large model Amigas
Rating: 70%
Reviewed: 8
Supplier: Power Computing
Price: £50

Floptical Disk
Removable optical disk for the Amiga
Rating: 90%
Reviewed: 8
Supplier: Digital Micronics
Price: £650

Frame Grabber
Real-time colour video capture system
Rating: na
Reviewed: na
Supplier: Marcam
Price: £599

Fujitsu B100
Little known ink-jet. Three fonts, 300 DPI, 160 CPS.
Rating: 70%
Reviewed: 22
Supplier: Fujitsu
Price: £349

Fujitsu B200
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Rating: 50%
Reviewed: 22
Supplier: Fujitsu
Price: £499

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Reviewed: na
Supplier: Power Computing
Price: £1999

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Reviewed: 15
Supplier: Silica
Price: £599

G-Force 030
40MHz 68030+FPU for the A1500(+) from GVP
Rating: 70%
Reviewed: 27
Supplier: Silica
Price: £699

G-Force 40
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Rating: na%
Reviewed: na
Supplier: Silica
Price: £1999

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Reviewed: 29
Supplier: G2 Systems
Price: £934

GenieScan
Hand-held 400DPI monochrome scanner
Rating: na%
Reviewed: na
Supplier: Datel
Price: £130

Genitizer
Entry level touch tablet. with a 9' x 6' working area
Rating: na%
Reviewed: na
Supplier: Datel
Price: £130

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Reviewed: 5
Supplier: Golden Image
Price: £150

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Reviewed: 26
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Price: £86.25

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Rating: 90%
Reviewed: na
Supplier: Power Computing
Price: £1300

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Reviewed: 3
Supplier: Silica
Price: £60

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Rating: 90%
Reviewed: 1,8,13
Supplier: Silica
Price: £399

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Rating: 70%
Reviewed: 8,13
Supplier: Silica
Price: £299

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Reviewed: 12
Supplier: Silica
Price: £1799

GVP Series 2
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Reviewed: 24
Supplier: Power Computing
Price: £159

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Reviewed: 16
Supplier: Hama PVAC
Price: £749

Harlequin
24-bit video card for A1500(+). 910x576 pixels
Rating: 90%
Reviewed: 11
Supplier: ACS
Price: £1400

ICD Kickback
Keyboard switchable Kickstart ROM sharer
Rating: na
Reviewed: na
Supplier: Silica
Price: £27

Image Master
Professional genlock that does it all
Rating: na
Reviewed: na
Supplier: Neriki
Price: £1150

KCS HD2
High-performance, dual high-density floppy drive
Rating: 90%
Reviewed: 35
Supplier: Bitcon Devices
Price: £199

Kickswitch
British-made keyboard switchable Kickstart ROM sharer
Rating: na
Reviewed: na
Supplier: Omega Projects
Price: £25

M1230XA
50MHz 68030+FPU accelerator for the A1200
Rating: 70%
Reviewed: 29
Supplier: Indy Direct
Price: £299

Megamix Master
From the Vidi Amiga men an 8-bit stereo sound grabber.
Rating: na
Reviewed: na
Supplier: Rombo
Price: £39.95

MicroGen
Budget-priced-general purpose fade/dissolve genlock
Rating: na
Reviewed: na
Supplier: Power Computing
Price: £199

MicroSampler
Budget priced 8-bit stereo sampler
Rating: na
Reviewed: na
Supplier: Datel
Price: £25

MiniGen
The simplest genlock money can buy!
Rating: 90%
Reviewed: 31
Supplier: Lola
Price: £49.95

NEC P20
Reliable 24 pin impact engine. Eight resident fonts. 115 CPS
Rating: 70%
Reviewed: 4
Supplier: NEC
Price: £351

Nexus HC
Internal hard drive card for A1500+
Rating: 70%
Reviewed: 8,13
Supplier: Power Computing
Price: £350

Novia 30i
Internal IDE hard disk for A500(+)
Rating: 50%
Reviewed: 8
Supplier: Power Computing
Price: £399

Oki ML380
Tough, office-type printer. 24 pin. 127 CPS. Three resident fonts.
Rating: 70%
Reviewed: 4
Supplier: Oki
Price: £386

Oki OL400
4PPM, 300DPI LED page printer. Reliable, low-cost. 512K RAM.
Rating: 90%
Reviewed: 22
Supplier: Oki
Price: £549

Opal Vision
24-Bit video card for A1500(+).

768x580 pixels
Rating: 90%
Reviewed: 20
Supplier: Silica
Price: £899

Optomouse
High-resolution optical mouse with no ball
Rating: 70%
Reviewed: 28
Supplier: Gasteiner
Price: £14.95

PC Dual Drive
Double-decker external floppy disk for all Amigas
Rating: 70%
Reviewed: 0,8
Supplier: Power Computing
Price: £120

PC501
Internal RAM expansion for the A500
Rating: 70%
Reviewed: 24
Supplier: Power Computing
Price: £30

PC501+
1Mb internal RAM expansion for the A500+
Rating: 90%
Reviewed: 24
Supplier: Power Computing
Price: £36

PC601
Internal RAM expansion for the A600
Rating: 90%
Reviewed: 24
Supplier: Power Computing
Price: £40

PC880B
Popular external floppy disk for all Amigas
Rating: 90%
Reviewed: 8
Supplier: Power Computing
Price: £55

Power 8Mb
External RAM expansion for the A500(+)
Rating: 90%
Reviewed: 24
Supplier: Power Computing
Price: £109

Power Scanner II
Hand-held 400DPI monochrome scanner
Rating: 90%
Reviewed: 14
Supplier: Power Computing
Price: £99

PowerScan Colour
Hand-held 400DPI 256 colour scanner
Rating: 50%
Reviewed: 23
Supplier: Power Computing
Price: £239

Prima
Internal IDE hard disk for A500(+)
Rating: 70%
Reviewed: 8
Supplier: Power Computing
Price: £499

Primera Printer
Photorealisic colour printer
Rating: 93%
Reviewed: 37
Supplier: Power Computing
Price: £649

Pro Agnus
2Mb Agnus CHIP for A500/A2000
Rating: 70%
Reviewed: 24
Supplier: WTS Electronics
Price: £139

Pro RAM 601
Internal 512K RAM expansion for the A600
Rating: 90%
Reviewed: 24
Supplier: WTS Electronics
Price: £38

Pro RAM Plus
Internal 512K RAM expansion for the A500
Rating: 50%
Reviewed: 8
Supplier: Datel
Price: £25

ProGen
Simple genlock
Rating: na%
Reviewed: na
Supplier: Gordon Harwood
Price: £130

RAM Master II
1.5Mb RAM internal expansion for the A500
Rating: na%
Reviewed: na
Supplier: Datel
Price: £100

Real-time Clock
Essential battery-backed up clock system for A1200 machine
Rating: 70%
Reviewed:
Supplier: First Choice
Price: £17.99

Rembrant
24-bit video card for A1500(+). 1024x1024 pixels
Rating: 70%
Reviewed: 13
Supplier: Power Computing
Price: £1499

Rendale 8802FMC
Very simple but effective genlock
Rating: 90%
Reviewed: 31
Supplier: Marcam
Price: £178

Retina
24-bit video card for A1500(+). 2400x 1200 pixels
Rating: 70%
Reviewed: 27
Supplier: ACS
Price: £345

RF542C
Unique 5.25' external floppy drive from Roctec
Rating: 70%
Reviewed: 0,8
Supplier: Silica
Price: £80

Ricoh LP1200
6PPM, 40o DPI laser engine with 2Mb basic RAM.
Rating: 90%
Reviewed: 22
Supplier: Silica
Price: £820

Roc Key
Genlock add-on (chromakey) for the RocGen Plus.
Rating: 70%
Reviewed: 19
Supplier: Silica
Price: £350

RocGen
Simple genlock with fader
Rating: 70%
Reviewed: 8
Supplier: Silica
Price: £117

RocGen Plus
Simple genlock with fade and dissolve. Noisy
Rating: 70%
Reviewed: 10
Supplier: Silica
Price: £199

Roclite
Sexy little slimline floppy drive for all Amigas
Rating: 90%
Reviewed: 8
Supplier: Silica
Price: £60

Sample Studio 2
8-bit stereo sampler
Rating: na%
Reviewed: na
Supplier: Datel
Price: £70

Sharp JX100
Hand-held 200DPI colour scanner
Rating: na
Reviewed: na
Supplier: Silica
Price: £695

Sharp JX300
300DPI colour flat-bed scanner
Rating: na
Reviewed: na
Supplier: Silica
Price: £3600

Sound Enhancer
Bass and treble boost control for Amiga sound.
Rating: na
Reviewed: na
Supplier: Omega Projects
Price: £40

Sound Trap 3
Tiny, if basic, monophonic 8-bit sound sampler
Rating: 70%
Reviewed: 3
Supplier: Omega Projects
Price: £30

Star Laser 4
4PPM, 300 DPI laser. 1M basic RAM.
Rating: 70%
Reviewed: 22
Supplier: Star
Price: £1173

Star LC200-24
Colour/monochrome impact. Four resident fonts. 91 CPS
Rating: 70%
Reviewed: 4
Supplier: Star
Price: £304

Stereo Master
Budget-priced 8-bit stereo sound sampler with volume control
Rating: 70%
Reviewed: 11
Supplier: HiSoft
Price: £40

Stereo sampler 2
8-bit stereo sound sampler with volume control
Rating: na
Reviewed: na
Supplier: Trilogic
Price: £40

Supra 500XP
External hard drive/RAM expansion for A500(+)
Rating: 70%
Reviewed: 1,8,13
Supplier: WTS Electronics
Price: £489

SyQuest Tape Backup
SCSI tape streamer for Amigas with SCSI port
Rating: 50%
Reviewed: 8
Supplier: Omega Projects
Price: £600

Toshiba CD-ROM
CD-ROM for Amigas with SCSI ports
Rating: 70%
Reviewed: 27
Supplier: Alamthera System
Price: £499

V-Lab
Real-time colour video capture system
Rating: 70%
Reviewed: 17
Supplier: ACS
Price: £300

Video Centre 2
Well-endowed genlock from the British SVHS masters
Rating: na
Reviewed: na
Supplier: G2 Systems
Price: £1170

Video Centre 3
High-performance suite from the masters
Rating: 70%
Reviewed: 7
Supplier: G2 Systems
Price: £1999.99

Video Master
Budget real-time video capture system with colour facility
Rating: 70%
Reviewed: 25
Supplier: MicroDeal
Price: £69.95

Videocomp G100
High cost, high performance genlock system
Rating: 90%
Reviewed: 3
Supplier: Silica
Price: £1800

VideoDigitiser
Real-time video capture system with colour facility
Rating: na
Reviewed: na
Supplier: Datel
Price: £80

VideoMaster VM 2
Expensive, high-performance SHVS genlock
Rating: 50%
Reviewed: 1
Supplier: Power Computing
Price: £799

Videon
Colour video capture system.
Rating: na
Reviewed: na
Supplier: Power Computing
Price: £200

Vidi Amiga 12 AGA
Popular and powerful budget priced video digitiser
Rating: 90%
Reviewed: 22
Supplier: Rombo
Price: £99.95

Vidi Amiga 12RT AGA
Real-time 12-bit video digitiser
Rating: 80%
Reviewed: 36
Supplier: Rombo
Price: £199.99

Vidi Amiga 24RT AGA
Real-time 24-bit video digitiser
Rating: 80%
Reviewed: 36
Supplier: Rombo
Price: £299.95

VXL30
25MHz 68030+FPU internal accelerator for the A500
Rating: na
Reviewed: na
Supplier: Indi Direct
Price: £409

WordSync 2000
Hard disk card for A1500+
Rating: 70%
Reviewed: 1,13
Supplier: WTS Electronics
Price: £450

Public Domain

3D Objects Disk 1
Collection of Sculpt 4D objects
Rating: 70%
Reviewed: 8
Supplier: AmigaNuts
Disk: —

A64
Emulates the C64 on the Amiga
Rating: 90%
Reviewed: 3
Supplier: AmigaNuts
Disk: 1030

ABackup
Hard disk backup utility
Rating: 70%
Reviewed: 23
Supplier: Fred Fish
Disk: F759

Acc Assembler
Fast Amiga assembler
Rating: 90%
Reviewed: 6
Supplier: AmigaNuts
Disk: —

Account Master
Useful home accounts program
Rating: 70%
Reviewed: 19
Supplier: Various
Disk: -

AIBB
Standard bench tests for the Amiga
Rating: 90%
Reviewed: 25
Supplier: PD Soft
Disk: V948

All 1.35
Intuition based archiving tool
Rating: 70%
Reviewed: 27
Supplier: Fred Fish
Disk: F825

Amiga E
Strange compiled programming language
Rating: 70%
Reviewed: 26
Supplier: Fred Fish
Disk: —

Amiga Pascal
Version of Wirth's first attempt at programming
Rating: 70%
Reviewed: 27
Supplier: Fred Fish
Disk: F849

AmigaDex
Superb pop-up address book
Rating: 90%
Reviewed: 19
Supplier: PD Soft
Disk: V757

Aminet CD-ROM
CD-ROM of Amiga software from Internet
Rating: 94%
Reviewed: 37
Supplier: 17-Bit
Disk: CD: £19.99

Anti Virus
Kill those viruses?!
Rating: 90%
Reviewed: 19
Supplier: Soft Expression
Disk: U155

AppISizer
Discover the size of a drawer easily
Rating: 90%
Reviewed: 28
Supplier: Fred Fish
Disk: F853

ARestaure
Restores deleted (trashed) files
Rating: 90%
Reviewed: 23
Supplier: Fred Fish
Disk: F760

ARexx Guide
Very handy AmigaGuide help for ARexx
Rating: 95%
Reviewed: 37
Supplier: PD-Soft
Disk: V1219

ARTM
Amiga real-time system monitor
Rating: 90%
Reviewed: 7
Supplier: 17-bit
Disk: 1274

Astro 22
Astrology program — give Rus. Grant the push1
Rating: 70%
Reviewed: 17
Supplier: PD Soft
Disk: V685

AutoSave
Execute ARexx script at regular intervals
Rating: 70%
Reviewed: 24
Supplier: Fred Fish
Disk: F711

Awp
Animate Workbench 2.0+ clock pointer
Rating: 70%
Reviewed: 11
Supplier: Fred Fish
Disk: F554

AZSpell
Spelling checker for text processors
Rating: 70%
Reviewed: 13
Supplier: DG
Disk: Disk:

Backup
Hard disk backup utility
Rating: 90%
Reviewed: 20
Supplier: Fred Fish
Disk: 724

Banner
Print huge banners on your Amiga
Rating: 70%
Reviewed: 10
Supplier: T-Bag
Disk: 52

BBase 3
Powerful database program
Rating: 90%
Reviewed: 28
Supplier: Fred Fish
Disk: F860

BBBS
Buletin board system
Rating: 70%
Reviewed: 20
Supplier: Fred Fish
Disk: F729

BigAnim
Animation player for very large files
Rating: 95%
Reviewed: 36
Supplier: PD-Soft
Disk: V1230

Boot Logo
Display a picture while booting
Rating: 70%
Reviewed: 23
Supplier: Fred Fish
Disk: F754

BRef
Basic cross-referencing utility
Rating: 70%
Reviewed: 9
Supplier: Fred Fish
Disk: F494

ButExchange
Reverse mouse buttons (for left-handers)
Rating: 70%
Reviewed: 9
Supplier: Fred Fish
Disk: F494
Cass 1.1

CDTV Player
Play audio CDs on A570 from Workbench
Rating: 90%
Reviewed: 23
Supplier: Fred Fish
Disk: F749

CFX
File type identifier. Very handy!
Rating: 90%
Reviewed: 22
Supplier: Fred Fish
Disk: F750

CG Fonts
Compugraphic fonts for Workbench 2
Rating: 70%
Reviewed: 19
Supplier: PD Soft
Disk: V713

ChemBalance
Balance chemical equations
Rating: 70%
Reviewed: 23
Supplier: Fred Fish
Disk: F759

Clock Tick
2.0-like clock, mouse pointer
Rating: 70%
Reviewed: 9
Supplier: T-Bag
Disk: 58

Comms II Collection
Colection of Terminal and related software
Rating: 84%
Reviewed: 37
Supplier: Scribble PD
Disk: U241a&b

Complete Bible
The King James Bible on three disks
Rating: 70%
Reviewed: 19
Supplier: PD Soft
Disk: V715-V717

CPK
Create rendered molecule illustrations
Rating: 70%
Reviewed: 26
Supplier: Fred Fish
Disk: F809

CZED
Patch editor for Casio MIDI synthesisers
Rating: 90%
Reviewed: 10
Supplier: Fred Fish
Disk: F223

DataBench
Very good PD database
Rating: 70%
Reviewed: 26
Supplier: Fred Fish
Disk: F820

DCopy
Disk copier
Rating: 70%
Reviewed: 10
Supplier: AmigaNuts
Disk: 700

DevRen
Rename devices (including DF0:)
Rating: 70%
Reviewed: 10
Supplier: GTS
Disk: Utils 1

DICE
Matt Dillon's superb C compiler
Rating: 90%
Reviewed: 3
Supplier: Fred Fish
Disk: F443

Disk Mate
Powerful Workbench disk copier
Rating: 90%
Reviewed: 28
Supplier: Fred Fish
Disk: F754

Disk Speed
Floppy disk drive benchmark program
Rating: 70%
Reviewed: 10
Supplier: GTS
Disk: Utils 1

DPaint Tutorial
Comprehensive Deluxe Paint tutorial
Rating: 90%
Reviewed: 22
Supplier: Soft Express
Disk: U160

DPU
Hex disk and file editor
Rating: 70%
Reviewed: 20
Supplier: Fred Fish
Disk: F721

Drag It!
Drag a window without having to get the title bar
Rating: 90%
Reviewed: 25
Supplier: Fred Fish
Disk: F792

Dynamic Skys
Nice astronomy program
Rating: 92%
Reviewed: 37
Supplier: PD-Soft
Disk: V1265

EasyBanker
Home finance program
Rating: 70%
Reviewed: 10
Supplier: GTS
Disk: Home 2

Electronic Baby Book
All about electrifying babies
Rating: 70%
Reviewed: 16
Supplier: PD Soft
Disk: V658

Elements
Periodic table of chemical elements
Rating: 70%
Reviewed: 13
Supplier: Fred Fish
Disk: F593

FastIntroMaker
Create your own scrolling demos
Rating: 70%
Reviewed: 26
Supplier: Fred Fish
Disk: F814

File and HD Management
Hard disk drive utilities
Rating: 90%
Reviewed: 15
Supplier: PD Soft
Disk: V573

File and HD Management 2
More hard disk drive utilities
Rating: 50%
Reviewed: 16
Supplier: PD Soft
Disk: V575

File Master
Binary file editor (like ZAP)
Rating: 90%
Reviewed: 10
Supplier: GTS
Disk: Utils 1

File Utils 3
A collection of file and hard disk utilities

Rating: 70%
Reviewed: 21
Supplier: PD Soft
Disk: V815

Filer
SID clone for Workbench 2
Rating: 70%
Reviewed: 11
Supplier: Fred Fish
Disk: F562

FindIt
Search for named files on any disk
Rating: 70%
Reviewed: 22
Supplier: Fred Fish
Disk: F731

Flash Disk
Another disk optimiser
Rating: 70%
Reviewed: 10
Supplier: GTS
Disk: Utils 2

Font Manager
Take over control of your bitmapped fonts
Rating: 70%
Reviewed: 10
Supplier: Digitz
Disk: 149

FontViewer
Keep track of all your bitmapped fonts
Rating: 70%
Reviewed: 22
Supplier: Fred Fish
Disk: F732

Format 1.1
Replacement for AmigaDOS disk format
Rating: 90%
Reviewed: 11
Supplier: Fred Fish
Disk: F535

Four Stroke Engine
Demonstrates the operation of an internal combustion engine
Rating: 70%
Reviewed: 19
Supplier: PD Soft
Disk: V738

Frac
Adventure game creator for non-programmers
Rating: 70%
Reviewed: 18
Supplier: AmigaNuts
Disk: 1251

Gadtool Box
Create Intuition front ends with ease!
Rating: 90%
Reviewed: 22
Supplier: Fred Fish
Disk: F731

Grab Kick
Grabs Kickstart ROM image to disk file
Rating: 70%
Reviewed: 27
Supplier: Fred Fish
Disk: F831

HAM Radio
Amateur radio user's utilities in AmigaBASIC!
Rating: 70%
Reviewed: 18
Supplier: Aardvark PD
Disk: H/00C-H/01

Hard Drive Special
Collection of HD utils
Rating: 90%
Reviewed: 9
Supplier: GTS
Disk: —

Home Business Pack
Database, Spreadsheet and Word processor
Rating: 90%
Reviewed: 25
Supplier: Anglia PD
Disk: HB1

Home Help
Computerised grocery list
Rating: 70%
Reviewed: 10
Supplier: GTS
Disk: Home 1

Home Manager
Personal organiser
Rating: 90%
Reviewed: 16
Supplier: PD Soft
Disk: V660

IBEM
Emulates PC compatibles in software
Rating: 70%
Reviewed: 3
Supplier: Virus Free PD
Disk: 1485

ICalc
A brilliant Shell-based calculator.
Rating: 90%
Reviewed: 22
Supplier: Fred Fish
Disk: F742

InputLock
Turn off mouse and keyboard
Rating: 70%
Reviewed: 9
Supplier: Fred Fish
Disk: F494

Install 1.2
Workbench install disk utility
Rating: 90%
Reviewed: 26
Supplier: Fred Fish
Disk: F817

JC Graphic Demo
Demo of Shareware graphics program
Rating: 90%
Reviewed: 23
Supplier: Fred Fish
Disk: F760

K1 Editor
Patch editor for Kawaii K1
Rating: 90%
Reviewed: 10
Supplier: Fred Fish
Disk: F332

KeyCall
Load applications from hotkeys
Rating: 90%
Reviewed: 28
Supplier: Fred Fish
Disk: F854

KingFisher
Detailed database of Fred Fish disks
Rating: 90%
Reviewed: 5
Supplier: GTS
Disk: —

LC-24/200 Fonts
Downloadable fonts for Star printers
Rating: 70%
Reviewed: 8
Supplier: NBS
Disk: L503

Learn&Play
Maths/Reflex/Logic
Rating: 70%
Reviewed: 5
Supplier: Riverdene
Disk: MIS637

LHA 1.11
Very popular archiving utility
Rating: 70%
Reviewed: 13
Supplier: Fred Fish
Disk: F593

Liner
Ideas processor (like "Flow").
Rating: 70%
Reviewed: 10
Supplier: Fred Fish
Disk: F285

Lock Device
Better AmigaDOS Lock command
Rating: 70%
Reviewed: 10
Supplier: GTS
Disk: Utils 1

Lock It
Password protect your files
Rating: 70%
Reviewed: 25
Supplier: Fred Fish
Disk: F798

LS
Very powerful Unix-like LS command for AmigaDOS
Rating: 90%
Reviewed: 24
Supplier: Fred Fish
Disk: F772

Macro 1.0
Record and play back user-inputs
Rating: 70%
Reviewed: 24
Supplier: Fred Fish
Disk: F786

Magnetic Pages
Create your own disk magazine
Rating: 90%
Reviewed: 17
Supplier: PD Soft
Disk: V688

Main Event
Event scheduler
Rating: 70%
Reviewed: 20
Supplier: Soft Expression
Disk: U149

MainActor
Plays 'Anim' type animations from disk
Rating: 90%
Reviewed: 36
Supplier: PD-Soft
Disk: V1229

Mandle Mountains
Creates 3D Mandlebrot scenes
Rating: 70%
Reviewed: 5
Supplier: Softville
Disk: 751

Map Editor
Map editor for AMOS BASIC programmers
Rating: 70%
Reviewed: 19
Supplier: AmigaNuts
Disk: —

Map Trix
A fractal texture mapping utility
Rating: 90%
Reviewed: 28
Supplier: Fred Fish
Disk: F853

Master Virus Killer
Another collection of virus killers
Rating: 70%
Reviewed: 1
Supplier: AmigaNuts
Disk: 971

Math Plot
Mathematical function plotter
Rating: 70%
Reviewed: 27
Supplier: Fred Fish
Disk: F850

Maths 4 Fun
Maths tutor
Rating: 70%
Reviewed: 9
Supplier: AmigaNuts
Disk: 1146

Maths Reflex
Test your maths skills
Rating: 70%
Reviewed: 20
Supplier: Anglia PD
Disk: C728

MED 3.11
Popular and powerful soundtracker
Rating: 90%
Reviewed: 1
Supplier: AmigaNuts
Disk: 973

MegaD 2.0
Brilliant SID-like directory helper
Rating: 90%
Reviewed: 22
Supplier: Fred Fish
Disk: F736

MegaED
Powerful text editor
Rating: 90%
Reviewed: 22
Supplier: Fred Fish
Disk: F743

MemoSnap
Programmers tool to trace lost memory pools
Rating: 70%
Reviewed: 27
Supplier: Fred Fish
Disk: F826

MessyDOS
Read and write PC disks in an Amiga drive
Rating: 90%
Reviewed: 6
Supplier: NBS
Disk: U619

MessySID 2
Read and write PC disks in an Amiga drive
Rating: 90%
Reviewed: 13
Supplier: PD Soft
Disk: V490

MIDI Library
Program MIDI applications
Rating: 90%
Reviewed: 9
Supplier: Fred Fish
Disk: F227

MinTerms
Calculates Blitter Minterms
Rating: 70%
Reviewed: 28
Supplier: Fred Fish
Disk: F560

Module Master
Play modules in various formats
Rating: 70%
Reviewed: 9
Supplier: T-Bag
Disk: 58

Multiplot
Data graphing program
Rating: 70%
Reviewed: 7
Supplier: Fred Fish
Disk: F467

NComm
Very powerful terminal emulator
Rating: 80%
Reviewed: 7
Supplier: 17-Bit
Disk: 1275

New Aqua
Database of Fred Fish disks
Rating: 90%
Reviewed: 27
Supplier: Fred Fish
Disk: F837

New PRT
Printer drivers for PageStream
Rating: 70%
Reviewed: 10
Supplier: Digitiz
Disk: 149

Nice Prefs
Extra Workbench 2.0 Preferences settings
Rating: 90%
Reviewed: 24
Supplier: Fred Fish
Disk: F780

North C
Charityware C compiler
Rating: 90%
Reviewed: 6
Supplier: AmigaNuts
Disk: 1112

PageStream Fonts
Fonts for PageStream
Rating: 90%
Reviewed: 10
Supplier: Digitiz
Disk: 149

PaperBack!
Create printed booklets with ease
Rating: 90%
Reviewed: 22
Supplier: Fred Fish
Disk: F749

Password
Password protection for your hard drive
Rating: 70%
Reviewed: 26
Supplier: Fred Fish
Disk: F804

PCQ Pascal
Another version of Wirth's first attempt
Rating: 70%
Reviewed: 6
Supplier: AmigaNuts
Disk: 1113

Phone Line Watcher
Keeps track of your 'phone bill
Rating: 70%
Reviewed: 9
Supplier: T-Bag
Disk: 58

Pict Saver
Grabs screens in IFF format
Rating: 90%
Reviewed: 9
Supplier: Fred Fish
Disk: F543

Popup Menu
Modified Workbench menus
Rating: 70%
Reviewed: 23
Supplier: Fred Fish
Disk: F756

Post
Postscript interpreter for normal printers
Rating: 90%
Reviewed: 27
Supplier: Fred Fish
Disk: F828-830

PowerSnap
Grab screen text as ASCII files
Rating: 90%
Reviewed: 8
Supplier: Fred Fish
Disk: F542

Printer Drivers
Drivers for the Star and Canon engines
Rating: 90%
Reviewed: 19
Supplier: PD Soft
Disk: V724

ProCAD
Shareware PCB designer for electronics bods
Rating: 84%
Reviewed: 37
Supplier: Softville
Disk: SOF920

QDisk
Get size of AmigaDOS volumes
Rating: 70%
Reviewed: 28
Supplier: Fred Fish
Disk: F853

QMouse
Mouse accelerator for Workbench
Rating: 90%
Reviewed: 24
Supplier: Fred Fish
Disk: F789

Rippers Disk
Rip modules from memory
Rating: 70%
Reviewed: 5
Supplier: 17-bit
Disk: 1055

RMB Shift
Select multiple icons on Workbench 1.3
Rating: 70%
Reviewed: 11
Supplier: Fred Fish
Disk: F547

RunMe
Run programs from menus
Rating: 90%
Reviewed: 9
Supplier: AmigaNuts
Disk: 1186

SetNoClick
Switch off that annoying empty drive click
Rating: 70%
Reviewed: 10
Supplier: GTS
Disk: Utils 1

Shapes
Maths/Logic
Rating: 70%
Reviewed: 5
Supplier: Riverdene
Disk: GAM907

SID 2
Powerful directory utility
Rating: 90%
Reviewed: 16
Supplier: 17-Bit
Disk: —

SKSH
Unix "KSH" like Shell replacement
Rating: 90%
Reviewed: 25
Supplier: Fred Fish
Disk: F791

Slideshow Kit
Create your own slideshows
Rating: 70%
Reviewed: 3
Supplier: Virus Free
Disk: 1465

Snap 1.4
Grabs screen text into clipboard
Rating: 70%
Reviewed: 10
Supplier: Fred Fish
Disk: F326

Sound Ed
Sample editor
Rating: 70%
Reviewed: 5
Supplier: Fred Fish
Disk: F486

Spectra Paint
Painting package
Rating: 70%
Reviewed: 3
Supplier: Slipped Disk
Disk: 19

Spell 4 Fun
Spelling
Rating: 70%
Reviewed: 9
Supplier: AmigaNuts
Disk: 1146

Strip It
Removes comments from ASCII source code
Rating: 70%
Reviewed: 22
Supplier: Fred Fish
Disk: 750

Super Format
Workbench 2.1-like disk formatter
Rating: 90%
Reviewed: 27
Supplier: Fred Fish
Disk: F835

SuperDark
Modular screen blanker
Rating: 70%
Reviewed: 27
Supplier: Fred Fish
Disk: F835

SysInfo
System information program - very nice
Rating: 90%
Reviewed: 11
Supplier: Fred Fish
Disk: F571

Term 3.1
Terminal emulator. The best available!
Rating: 90%
Reviewed: 27
Supplier: Fred Fish
Disk: F831-833

Text Plus 3.0
Word processor
Rating: 70%
Reviewed: 1
Supplier: PD Soft
Disk: V261

Tools Daemon
Run programs from 2.0 Workbench Tools menu
Rating: 70%
Reviewed: 11
Supplier: Fred Fish
Disk: F561

Touch Typing Tutor
Teach yourself touch typing
Rating: 70%
Reviewed: 17
Supplier: NBS
Disk: CLU03

Twilight Zone
After-Dark like screen blanker
Rating: 90%
Reviewed: 24
Supplier: Fred Fish
Disk: F782

Unix Dirs
Unix-like directory movement
Rating: 90%
Reviewed: 27
Supplier: Fred Fish
Disk: F850

VirusZ
Virus killer
Rating: 90%
Reviewed: 26
Supplier: Fred Fish
Disk: F786

WFILE
Convert PC and Mac text files
Rating: 90%
Reviewed: 24
Supplier: Fred Fish
Disk: F776

Will and Testament
Template for writing your own will
Rating: 90%
Reviewed: 19
Supplier: PD Soft
Disk: V706

Word Wright
Word processor
Rating: 70%
Reviewed: 13
Supplier: PD Soft
Disk: V28

X Tables
Maths (multiplication tables)
Rating: 90%
Reviewed: 9
Supplier: AmigaNuts
Disk: 1146

ZX Emulator
Makes the Amiga into a ZX-Spectrum!
Rating: 70%
Reviewed: 3
Supplier: AmigaNuts
Disk: 1030

Software

AccuTrans 3D
Converts 3D objects
Rating: 70%
Reviewed: 33
Supplier: Micromouse
Price: £39.29

ADPTools Professional
Remote control for ASDG's Art Department Pro
Rating: 70%
Reviewed: 35
Supplier: White Night
Price: £125

Advantage
One of the best all-round Amiga spreadsheets
Rating: 70%
Reviewed: 1,9
Supplier: Silica
Price: £100

Aladdin 4D
Amazing ray-traced rendering package
Rating: 93
Reviewed: 38
Supplier: Hobbyte
Price: £213

Alternative Scroller
Video titling system
Rating: na
Reviewed: na
Supplier: Alternative Image
Price: £50

Ami-Back
Very popular hard disk backup system
Rating: 70%
Reviewed: 29
Supplier: Omega Projects
Price: £69.99

AmiBase 4
Simple flat-file database
Rating: 70%
Reviewed: 36
Supplier: One Vision Software
Price: £15

AmigaVision
Hypercard-like engine
Rating: na
Reviewed: na
Supplier: Commodore
Price: £80

AMOS
BASIC programming language with many extensions
Rating: 90%
Reviewed: 3,9
Supplier: Europress
Price: £50

AMOS 3D
3d-extension for AMOS BASIC
Rating: 90%
Reviewed: 5,7
Supplier: Europress
Price: £30

AMOS Compiler
Compiler for AMOS BASIC
Rating: 70%
Reviewed: 5,9
Supplier: Europress
Price: £30

AMOS Pro Compiler
Compiler extension for AMOS BASIC
Rating: 70%

Reviewed: 30
Supplier: Europress
Price: £34.95

AMOS Professional
Bigger, more powerful version of AMOS
Rating: 90%
Reviewed: 20
Supplier: Europress
Price: £69.95

AntiA
Font enhancement utility
Rating: 70%
Reviewed: 8
Supplier: Zen
Price: £40

Art Department Professional
Latest version of famous image processor
Rating: 84%
Reviewed: 37
Supplier: First Computer Center
Price: £149.95

Art Expression
Structured (object oriented) drawing package
Rating: 70%
Reviewed: 24
Supplier: Silica
Price: £150

Bars and Pipes Pro 2
Very powerful music and multimedia engine
Rating: 80%
Reviewed: 31
Supplier: Meridian
Price: £299.99

Brilliance
The Amiga's first real paint program for years. A classic.
Rating: 95%
Reviewed: 38
Supplier: Meridian
Price: £199.95

Broadcast Titler
Video titling system
Rating: 70%
Reviewed: 2
Supplier: Meridian
Price: £327.27

Caligari 24
Power drawing at a budget price
Rating: 50%
Reviewed: 33
Supplier: Amiga Centre Scotland
Price: £99.95

CanDO 2.51
Hypercard-like applications generator.
Rating: 70%
Reviewed: 33
Supplier: INOVAtronics
Price: £149.95

CMPanion
Patch editor for MIDI
Rating: 70%
Reviewed: 6
Supplier: Gajits
Price: £100

Count and Add
Maths
Rating: 70%
Reviewed: 10
Supplier: Lander Software
Price: £26

Cygnus ED 3
One of the best pure text editors around. A programmer's tool
Rating: 90%
Reviewed: 33
Supplier: Silica
Price: £79.95

Deluxe Paint 4
AGA version available.
Rating: 80%
Reviewed: 10
Supplier: Electronic Arts
Price: £90

Devpac 3
The ultimate assembly language development tool
Rating: 90%
Reviewed: 10,12
Supplier: HiSoft
Price: £70

Directory Opus 4
Super-powerful graphical window on AmigaDOS
Rating: 90%
Reviewed: 28
Supplier: Silica
Price: £64.95

Disney Animation Studio
Animation program from the masters.
Rating: 70%
Reviewed: 1
Supplier: Silica
Price: £80

Easy AMOS
Stripped down version of AMOS BASIC with debugger
Rating: 90%
Reviewed: 12
Supplier: Europress
Price: £35

Elan Performer 2
Video presentation system
Rating: 70%
Reviewed: 11
Supplier: Silica
Price: £180

Essence II
Specially generated textures
Rating: 90%
Reviewed: 32
Supplier: Alternative Image
Price: £100

Final Copy 2
Upgrade to the hugely successful Final Copy
Rating: 70%
Reviewed: 25
Supplier: Gordon Harwood
Price: £79.95

Final Writer
Upgrade to Final Copy 2
Rating: 90%
Reviewed: 33
Supplier: Gordon Harwood
Price: £129.95

Fun School 3
3 R's software with fun graphics
Rating: 90%
Reviewed: 2
Supplier: Europress
Price: £25

Fun School 4
3 R's software with fun graphics
Rating: 90%
Reviewed: 9
Supplier: Europress
Price: £25

GB Route Edit
Editor for users of GB Route Plus
Rating: 80%
Reviewed: 10
Supplier: Complex Computers
Price: £30

GB Route Plus
Automated route planning for UK drivers
Rating: 90%
Reviewed: 10
Supplier: Complex Computers
Price: £80

GigaMem
Virtual memory for big Amigas with bigger hard disks
Rating: 90%
Reviewed: 33
Supplier: Gasteiner
Price: £69.95

HiSoft BASIC
Under-rated version of the BASIC language. Internal compiler
Rating: 70%
Reviewed: 9
Supplier: HiSoft
Price: £50

HiSpeed Pascal
Interesting implementation of Pascal from the language masters
Rating: 70%
Reviewed: 19
Supplier: HiSoft
Price: £100

Home Office 2
Superb integrated office suite from Gold Disk
Rating: 90%
Reviewed: 20
Supplier: Silica
Price: £99.99

Hyperbook
Another Hypercard clone
Rating: 70%
Reviewed: 6
Supplier: Silica
Price: £100

Image Master
Powerful image processing system
Rating: 90%
Reviewed: 18
Supplier: Amiga Centre Scotland
Price: £175

ImageFX
Rival to Art Department
Rating: 70%
Reviewed: 27
Supplier: Silica
Price: £269.95

Imagine 2
Powerful 3D modelling system
Rating: 70%
Reviewed: 14
Supplier: Silica
Price: £270

K-Spread 4
Power spreadsheet with GEM-like interface
Rating: 70%
Reviewed: 9
Supplier: HiSoft
Price: £150

Lattice C v5
The most popular commercial C compiler
Rating: 90%
Reviewed: 3,9
Supplier: HiSoft
Price: £230

Let's Spell
Writing
Rating: 70%
Reviewed: 2
Supplier: Softstuff
Price: £20

M2 Amiga
Amiga implementation of Wirth's Modula-2
Rating: 70%
Reviewed: 7,9
Supplier: Real-Time Associates
Price: £125

MakePath
Automatic path generator add-on for VistaPro
Rating: 70%
Reviewed: 23
Supplier: Meridian
Price: £24.95

Map Master
Image mapping system
Rating: 70%
Reviewed: 14
Supplier: Alternative Image
Price: £54

MediaPoint
High-end presentation authoring system like Scala
Rating: 91%
Reviewed: 37
Supplier: Meridian
Price: £329.99

Micro French
Learn franglais by computer
Rating: 70%
Reviewed: 17
Supplier: LCL
Price: £24

Mini Office 2
Integrated suite of office software
Rating: 60%
Reviewed: 17
Supplier: Europress Software
Price: £59.95

Moviesetter
Basic cartoon animation package from Gold Disk.
Rating: 70%
Reviewed: 14,23
Supplier: Silica
Price: £59.95

Music-X
Popular midi sequencing software
Rating: 70%
Reviewed: na
Supplier: MicroIllusions
Price: £150

Music-X Jnr.
Budget version of Music-X
Rating: 70%
Reviewed: na
Supplier: MicroIllusions
Price: £50

Nexus Backdrops
Backdrops for specialised video use
Rating: 50%
Reviewed: 29
Supplier: Video World
Price: £29.95

Noddy's Big Adventure
13 educational games featuring Noddy. Stage 1 Nat. Cir.
Rating: 90%
Reviewed: 35
Supplier: The Jumpin Company
Price: £24.99

OctaMed Companion
Tutorial for OctaMED Pro VB5
Rating: 90%
Reviewed: 29
Supplier: SeaSoft Computing
Price: £16.99

OctaMed Professional V5
Very powerful and hugely popular music/midi editor
Rating: 90%
Reviewed: 29
Supplier: SeaSoft Computing
Price: £30.50

PageStream 2.2
Inexpensive page layout program with Postscript
Rating: 50%
Reviewed: 2,3
Supplier: Meridian
Price: £69.95

Pen Pal
Fun word processor with integral database
Rating: 70%
Reviewed: 6,9,25
Supplier: Gordon Harwood
Price: £49.95

Pepe's Garden
The 3 Rs
Rating: 70%
Reviewed: 10
Supplier: Prisma
Price: £25.99

Personal Fonts Maker 2
256 colour font construction utility from Cloanto
Rating: 70%
Reviewed: 36
Supplier: Meridian
Price: £59.95

Personal Paint 4.0
Latest version of Cloanto's DPaint rival
Rating: 75%
Reviewed: 37
Supplier: Meridian
Price: £59.95

Picture Book
The 3 Rs
Rating: 90%
Reviewed: 10
Supplier: Triple R Education
Price: £20

PowerBase 3.34
Simple flat-file database
Rating: 70%
Reviewed: 30
Supplier: Amivision
Price: £14.95

Powerwaves 3.1
Makes 3D wave based objects
Rating: 70%
Reviewed: 21
Supplier: Database Software
Price: £17.95

Pro Draw 3.0
Structured drawing compliment to Pro Page
Rating: 90%
Reviewed: 27
Supplier: Silica
Price: £132

Pro Page 4
Big, well-respected page layout from Gold Disk
Rating: 90%
Reviewed: 27
Supplier: Silica
Price: £199.95

Professional Calc
Major upgrade of Advantage with many more features
Rating: 90%
Reviewed: na
Supplier: Silica
Price: £150

Protext V6
Latest version of Arnor's power word processor
Rating: 80%
Reviewed: 35
Supplier: Arnor
Price: £99

Quarterback 6.0
Latest version of popular HD backup utility
Rating: 82%
Reviewed: 37
Supplier: Meridian
Price: £74.95

Quarterback Tools Deluxe
Collection of disk utilities
Rating: 90%
Reviewed: 31
Supplier: Meridian
Price: £129.95

Real 3D 2
Clever surface texture modelling in a class of its own.
Rating: 80%
Reviewed: 31
Supplier: Alternative Image
Price: £469

Resource
Disassembles binary to macro assembly language
Rating: 90%
Reviewed: 33
Supplier: Helios
Price: £130

Scala EE100
Semi-pro editing for LANC equipped gear
Rating: na
Reviewed: 36
Supplier: Scala UK
Price: £149

Scala MM300
Costly, all-singing, all-dancing video FX generator
Rating: 90%
Reviewed: 36
Supplier: Scala UK
Price: £329

Sculpt 4D
A genuine classic of ray-tracers.
Rating: 90%
Reviewed: 7
Supplier: Alternative Image
Price: £400

Smooth Talker
Video prompting system
Rating: 70%
Reviewed: 16
Supplier: Zen Computers
Price: £140

Spellbound
Writing for little ones
Rating: 70%
Reviewed: 6
Supplier: Lander Software
Price: £26

Spellicopter
Spelling
Rating: 70%
Reviewed: 6
Supplier: ESP Software
Price: £20

Studio
All-singing printer driver
Rating: 90%
Reviewed: 33
Supplier: JAM
Price: £49.95

Superbase Personal 2
Very powerful programmable relational database with forms
Rating: 70%
Reviewed: 9,12
Supplier: Oxxi
Price: £100

Superbase Pro 4
Very powerful programmable relational database with forms
Rating: 90%
Reviewed: 4,9
Supplier: Oxxi
Price: £400

SuperJam!
Music generation by computer
Rating: 70%
Reviewed: 15
Supplier: Blue Ribbon Sound
Price: £100

Surface Master
Another gribbly surface generator for Imagine
Rating: 70%
Reviewed: 14
Supplier: Alternative Image
Price: £28

Technosound Turbo 2
Sample editor
Rating: 70%
Reviewed: 30
Supplier: New Dimensions
Price: £39.99

Terraform
Edits landsape.DEM files for VistaPro
Rating: 70%
Reviewed: 26
Supplier: Meridian
Price: £34.99

The French Mistress
French language tutor for all
Rating: 70%
Reviewed: 4
Supplier: Kosmos
Price: £20

Touch Typist
Computer aided course in touch typing
Rating: 70%
Reviewed: 15
Supplier: Sector Software
Price: £14

TrapFAX
FAX software for high-speed modems
Rating: 80%
Reviewed: 36
Supplier: Blittersoft
Price: 74.95

Turbo Print Pro
Enhanced printing utility
Rating: 70%
Reviewed: 14,15
Supplier: Meridian
Price: £49.95

TypeSmith 2
Scalable font utility
Rating: 90%
Reviewed: 36
Supplier: Meridian
Price: £135

Upper Disk Tools
Disk recovery tools
Rating: 81%
Reviewed: 37
Supplier: Wheelbarrow Software
Price: 19.95

VistaPro
Real-world landscape generator
Rating: 90%
Reviewed: 7
Supplier: Meridian
Price: £100

VTClock
Video-type clock overlay for video use
Rating: 90%
Reviewed: 35
Supplier: Zen Computers
Price: £35.25

Wordworth 2 AGA
Greatly improved version of Wordworth (and British too)
Rating: 80%
Reviewed: 33
Supplier: Digita
Price: £129.95

Wordworth 3.0
Latest version of Digita's high-power word processor
Rating: 65%
Reviewed: 37
Supplier: Digita
Price: £149.99

Supplier's list

For information on the libraries supplying pulbic domain and shareware, check out our full listing on page 89.

Accolade	071 738 1391
ACL	0933 650677
Almathera	081 687 0040
Alternative Image	0533 440041
Amiga Centre Scotland	089 687583
Arnor	0733 68909
Blitter Soft	0908 220196
Calculus	0543 418666
Cloudhall	0604 231211
Commodore	0628 770088
Complex Computers	0706 224531
Coombe Valley	0626 779695
Digita	0395 270273
Electronic Arts	0753 549442
Entertaiment Int.	081 343 9143
ESP	0702 600557
Europress	0625 859333
Expressworks	0252 726255
Gajits	061 236 2515
Gasteiner	081 345 6000
GND	071 515 0100
Gordon Harwood	0773 836781
HiSoft	0525 718181
Indi Direct	0543 419999
Kosmos Software	0525 873942
Lander Software	041 357 1659
Lola Electronics	0858 880182
Marcam	0604 790466
MCM	081 963 0663
Meridian	081 543 3500
MicroIllusions	0480 496497
New Dimensions	0291 690933
Oki Printers	0753 819819
Omega Projects	0942 682206
Power Computing	0234 273000
Prisma Software	0244 362244
Real Time Associates	081 6567333
Rombo	0506 414631
Scala UK	0920 444294
SeaSoft Computing	0903 850378
Silica	081 309 1111
Siren Software	061 474 7572
Star	0494 471111
The Jumping Bean Company	0602 792838
Trilogic	0274 678062
Tripple 'R' Software	0742 780370
White Knight Technologies	0992 714539
Zen Computer Services	061 793 1931

Yur guide to safer Amiga Shopping

Getting confused in the alluring shopping jungle is easy. Amiga Shopper leads the way to a better buy.

Colourful adverts tempt you with amazing pieces of equipment and software for your Amiga. They are faster, bigger, better and you are just dying to get your hands on them. Your first step to avoid dishonest businesses (thankfully they are a small minority, but all it takes is one!) and ultimately disappointment on your behalf, is to read our Safe Shopping advice. Follow a few simple steps and the Amiga kit of your dreams will safely be yours.

BUYING IN PERSON

● Where possible, always test any software and hardware in the shop before taking it home, to make sure that everything works properly.

● Make sure you have all the necessary leads, manuals or other accessories you should have.

● Don't forget to keep your receipt.

BUYING BY PHONE

● Be as clear as possible when stating what you want to buy and make sure you confirm all the technical details. Things to bear in mind are: version numbers, memory requirements, other hardware or software required, and compatibility with your Amiga (be sure you know which version of Kickstart you have).

● Check the price you are asked to pay, and make sure that it's the same as the price advertised.

● Check that what you are ordering is actually in stock.

● Check when and how the article will be delivered, and that any extra charges are as stated on the advert.

● Make a note of the date and time when you order the product.

BUYING BY POST

● You must remember to clearly state exactly what you are buying, at what price (refer to the magazine, page and issue number where it's advertised) and give any relevant information about your system set-up that will reduce the risk of hiccups.

● Make sure you keep copies of all correspondence.

MAKING RETURNS

You are entitled to return a product if it fails to meet one of the following criteria:

1. The goods must be of 'merchantable quality.'
2. They must be "as described".
3. They must be fit for the purpose for which they were sold, or for the purpose you specified when ordering.

If they fail to satisfy any or all of the criteria, then you are entitled to:

● Return them for a refund.
● Receive compensation for part of the value.
● Get a replacement or free repair.

● When returning a product, ensure you have proof of purchase and that you return the item as soon as possible after receiving it. That's why it is important to check it thoroughly as soon as it is delivered.

GETTING REPAIRS

● Always check the conditions of the guarantee, and servicing and replacement policy.

● Always fill in and return warranty cards as soon as possible, and make sure that you are aware of all the conditions in the guarantee.

BUYING PD

● Even though PD software is relatively inexpensive, you should still apply the guidelines set out above, making sure that you confirm all orders as clearly as possible.

● Shopping around is still important when buying PD because different sources charge different prices for the same disks. There is no set pricing structure for disks, but bear in mind that PD houses are meant to be non-profit-making operations. AS

Buying by Mail – Ten Steps to Safety

When you're buying from any mail order company, it's worth following *Amiga Shopper's* useful guidelines to avoid confusion and disappointment:

1.) Before you send any money, ring the supplier to make sure the item you require is in stock. Ask questions about the company's policy on delivery and returns of faulty equipment. Make sure that there are no hidden costs such as postage and packaging. Find out when you can *realistically* expect to receive your goods.

2.) Always read the small print in adverts. This is normally where the unpleasant surprises are hidden

3.) Beware companies that do not include their address on their adverts. Also, avoid companies which do not answer or return your calls.

4.) By far the best method of payment is by credit card. If ordering goods of more than £100 in total value, remember that you are legally entitled to claim compensation from some credit companies if the retailer goes bust. Check your credit card company's policy carefully. You can also try to get extra insurance in advance.

5.) If you're not paying by credit card, pay by cheque. Never send cash, and avoid using postal orders.

6.) Keep records. If you are buying by credit card keep a note of the time of the order and ask for an order number. When ordering anything over the telephone, always double-check the price.

7.) When sending a cheque keep a note of the cheque number, the date and the exact value. Make sure you know the exact name of the mail order company.

8.) When you receive your goods, check them carefully. If anything is missing or faulty, contact the supplier immediately.

9.) Always order from the most recent issue of *Amiga Shopper.*

10.) If a problem does arise, contact the supplier in the first instance. Calmly and politely tell them your problem. Most problems turn out to be minor hitches or misunderstandings that can easily be resolved. If you think you have a genuine grievance, contact your local Trading Standards Officer. The number is in the phone book.

ADVERTISERS INDEX

AMIGA SHOPPER

Issue 39 – July 1994

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All cracking books which we thoroughly recommend!

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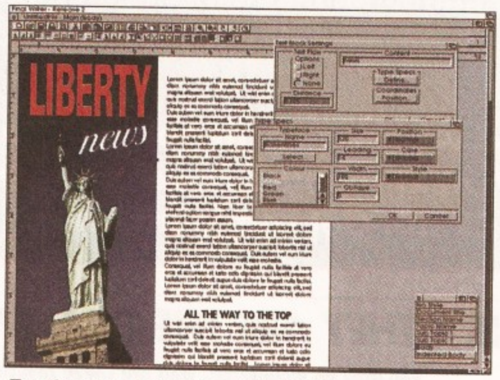
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Get your hands on the victor!

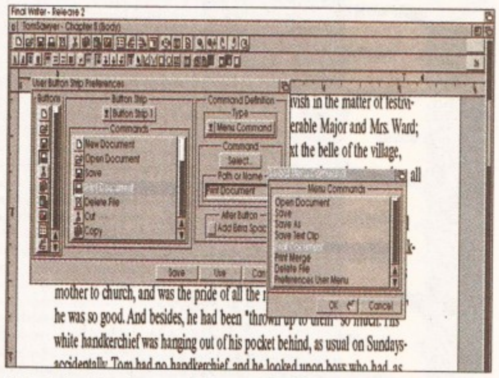
We've got 14 copies of Final Writer, top word processor in this month's round-up, to give away. Get your thinking cap on!

Fourteen copies of *Final Writer* to give away – quite a set of prizes, eh? That's over £1,000 worth of top-quality software. And all thanks to the generosity of the good folk at Softwood Products Europe.

If you want to know why *Final Writer* is worth winning, why not check out the humongous word processor review round-up starting on page 9? If



For the style conscious, Final Writer provides configurable style sheets, giving you the freedom to create that special look with minimum fuss



Sing, to the tune of Europe's hit song, "It's the Final Writer..." And what with all the features it has, it may well be the last wp you'll ever need.

you do, you'll find that the program that comes out on top, and by quite a wide margin, is the very same *Final Writer* that we're giving away here. Aren't we good to you?

Winning couldn't be easier (well, OK, we *could* just give everyone a copy...) – stick your answers to the three questions below down on a postcard or the back of a sealed envelope, along with your name and address, and send your entry to:

The Write Stuff
Amiga Shopper
Future Publishing
29 Monmouth Street
Bath
Avon BA1 2DL

Please state on your entry if you don't want your name included on a mailing list. The closing date for entries is 8 July. Only one entry per household will be accepted. Good luck. AS

THOSE EASY-PEASY QUESTIONS

1) How many user-configurable button strips do you get with *Final Writer*?

2) *Final Writer* can import structured drawings created in other packages, using the EPS format. What does EPS stand for?

3) To help implement its Postscript support, *Final Writer* makes use of a shareware library called post.library. What is the name of this library's author?

You'll find the answers to all of these buried in the word processor feature on page 9, which you've no doubt read in detail anyway. Should be easy then, eh?

Communicating with the net

Next month's Amiga Shopper will carry your complete guide to the Internet.

- How to get started
- What kit you need
- Where to look
- What it can do for you

Discover all this and what on Earth gophers have to do with anything in next month's issue, on sale Tuesday 5 July for £2.50. Get communicating!

AT-A-GLANCE GUIDE

To help you find what you want quickly, here is a cross-referenced list of everything covered in this month's *Amiga Shopper*. You'll find a detailed index to the problem-solving *Amiga Answers* section on page 41. The page numbers given are for the first page of the article in which the subject is mentioned.

Are there any products or subjects you'd like us to take a look at? Well, just drop a line to: *Amiga Shopper*, 30 Monmouth Street, Bath, Avon BA1 2BW.

THEY ARE THE CHAMPIONS • THEY ARE THE CHAMPIONS

And they've both deservedly won issue 37's *Multimedia Madness* competition, and will soon each be receiving a complete multimedia set-up, comprising a CD-ROM drive, SCSI interface, hard disk, extra RAM and a copy of *Scala MM300*. Didn't they do well? But, you may be wondering, who are these mysterious "they"? Well, their identity shall remain a secret no longer. The winners are: D March of Norton, Sheffield, and D Stoneham of Hammersmith, London. Well done both of you.

BE SURE TO AVOID DISAPPOINTMENT – RESERVE YOUR FAVOURITE MAGAZINE AT YOUR LOCAL NEWSAGENT NOW!

DEAR NEWSAGENT, Please reserve/deliver me a copy of *Amiga Shopper* every month, beginning with the August issue, which goes on sale on Tuesday 5 July.

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